

This draft registration statement has not been publicly filed with the Securities and Exchange Commission and all information herein remains strictly confidential.

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 20-F

(Mark One)

- REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934
OR
 ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended _____
OR
 TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____
OR
 SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Date of event requiring this shell company report _____
Commission file number [•]

PURETECH HEALTH PLC

(Exact name of registrant as specified in its charter and translation of Registrant's name into English)

England and Wales
(Jurisdiction of incorporation or organization)

20 Farringdon Street, 8th Floor
London, EC4A 4AB, United Kingdom
(Address of principal executive offices)

Daphne Zohar
Chief Executive Officer
6 Tide Street, Suite 400
Boston, Massachusetts 02210
Tel: (617) 482-2333

(Name, telephone, e-mail and/or facsimile number and address of company contact person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of each class:	Name of each exchange on which registered:
American Depositary Shares, each representing [•] ordinary shares, par value £0.01 per share Ordinary shares, par value £0.01 per share*	The Nasdaq Capital Market

* Listed not for trading, but only in connection with the registration of the American Depositary Shares, pursuant to the requirements of the Securities & Exchange Commission.

Securities registered or to be registered pursuant to Section 12(g) of the Act: None.
Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None.

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report: N/A.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days: Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files): Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act.

† The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP International Financial Reporting Standards as issued by the International Accounting Standards Board Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

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Special Note Regarding Forward-Looking Statements

This registration statement contains forward-looking statements that involve substantial risks and uncertainties. All statements contained in this registration statement, other than statements of historical fact, including statements regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words “anticipate,” “believe,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “target,” “potential,” “would,” “could,” “should,” “continue” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. The forward-looking statements in this registration statement include, among other things, statements about:

- our ability to realize value from our Founded Entities, which may be impacted if we reduce our ownership to a minority interest or otherwise cede control to other investors through contractual agreements or otherwise;
- the success, cost and timing of our clinical development of our Wholly Owned Programs, including the progress of, and results from, our preclinical and clinical trials of LYT-100, LYT-200, LYT-210, LYT-300, our discovery programs (Glyph, Orasome and our meningeal lymphatics discovery research program) and other potential product candidates within our Wholly Owned Programs;
- our ability to obtain and maintain regulatory approval of our Wholly Owned product candidates, and any related restrictions, limitations or warnings in the label of any of our Wholly Owned product candidates, if approved;
- our ability to compete with companies currently marketing or engaged in the development of treatments for indications that our Wholly Owned product candidates or those of our Founded Entities are designed to target;
- our plans to pursue research and development of other future product candidates;
- the potential advantages of our Wholly Owned product candidates and those being developed by our Founded Entities;
- the rate and degree of market acceptance and clinical utility of our product candidates;
- the success of our collaborations and partnerships with third parties;
- our estimates regarding the potential market opportunity for our Wholly Owned product candidates and those being developed by our Founded Entities;
- our sales, marketing and distribution capabilities and strategy;
- our ability to establish and maintain arrangements for manufacture of our Wholly Owned product candidates and those being developed by our Founded Entities;
- our intellectual property position;
- our expectations related to the use of capital;
- the effect of the COVID-19 pandemic, including mitigation efforts and economic effects, on any of the foregoing or other aspects of our business operations, including but not limited to our preclinical studies and future clinical trials;
- our estimates regarding expenses, future revenues, capital requirements and needs for additional financing;
- the impact of government laws and regulations; and
- our competitive position.

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We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. You should refer to the section of this annual report titled “Item 3.D.—Risk Factors” for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

You should read this registration statement and the documents that we have filed as exhibits to the registration statement completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

This registration statement includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information.

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EXPLANATORY NOTE

We are a clinical-stage biotechnology company dedicated to discovering, developing and commercializing highly differentiated medicines for devastating diseases, including inflammatory and immunological conditions, intractable cancers, lymphatic and gastrointestinal diseases and neurological and neuropsychological disorders, among others. The product candidates within our Wholly Owned Pipeline and the products and product candidates being developed by our Founded Entities were initiated by our experienced research and development team and our extensive network of scientists, clinicians and industry leaders and consist of 24 products and product candidates, of which 12 are clinical-stage and two have been cleared by the FDA and granted marketing authorization in the European Economic Area.

Our Founded Entities are comprised of our Controlled Founded Entities and our Non-Controlled Founded Entities. References in this registration statement to our “Controlled Founded Entities” refer to Follica, Incorporated, Vedanta Biosciences, Inc., Sonde Health, Inc. Alivio Therapeutics, Inc. and Entrega, Inc. References in this registration statement to our “Non-Controlled Founded Entities” refer to Gelesis, Inc., Akili Interactive Labs, Inc., Karuna Therapeutics, Inc. and Vor Biopharma Inc., and, for all periods prior to December 18, 2019, resTORbio, Inc. We formed each of our Founded Entities and have been involved in development efforts in varying degrees. In the case of each of our Controlled Founded Entities, we continue to maintain majority voting control. With respect to our Non-Controlled Founded Entities, we may benefit from appreciation in our investment as a shareholder of such companies.

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PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS.

A. Directors and Senior Management

The following table sets forth the names, ages as of September 22, 2020 and positions of our senior management and directors:

<u>NAME</u>	<u>AGE</u>	<u>POSITION</u>
Senior Management		
Joseph Bolen, Ph.D.	67	Chief Scientific Officer
Bharatt Chowrira, J.D., Ph.D.	55	President and Chief of Business and Strategy
Eric Elenko, Ph.D.	47	Chief Innovation Officer
Joep Muijers, Ph.D.	47	Chief of Portfolio Strategy
Stephen Muniz, J.D.	50	Chief Operating Officer, Company Secretary, Director
Daphne Zohar	50	Chief Executive Officer, Director
Non-Employee Directors		
Raju Kucherlapati, Ph.D.(1)(2)	77	Director
John LaMattina, Ph.D.(2)	70	Director
Robert Langer, Sc.D.(3)	72	Director
Dame Marjorie Scardino(1)(3)	73	Director
Christopher Viehbacher(1)	60	Chairman

(1) Member of the Audit Committee.

(2) Member of the Remuneration Committee.

(3) Member of the Nomination Committee.

Executive Officers

Joseph Bolen, Ph.D. has served as our Chief Scientific Officer since October 2015. Prior to his appointment as Chief Scientific Officer, Dr. Bolen oversaw all aspects of research and development for Moderna Therapeutics as President and Chief Scientific Officer from July 2013 to October 2015. Previously, he was Chief Scientific Officer and Global Head of Oncology Research at Millennium: The Takeda Oncology Company. Prior to joining Millennium in 1999, Dr. Bolen held senior R&D positions at Hoechst Marion Roussel, Schering-Plough and Bristol-Myers Squibb. Dr. Bolen began his career at the National Institutes of Health, where he contributed to the discovery of a class of proteins known as tyrosine kinase oncogenes as key regulators of the immune system. Dr. Bolen received a B.S. degree in Microbiology & Chemistry and a Ph.D. in Immunology from the University of Nebraska and conducted his postdoctoral training in Molecular Virology at the Kansas State University Cancer Center.

Bharatt Chowrira, J.D., Ph.D. has served as our President and Chief of Business and Strategy since March 2017. Prior to joining PureTech, Dr. Chowrira was the President of Synlogic, Inc., a biopharmaceutical company focused on developing synthetic microbiome-based therapeutics, from September 2015 to February 2017, where he oversaw and managed corporate and business development, alliance management, financial, human resources, intellectual property and legal operations. Prior to that, Dr. Chowrira was the Chief Operating Officer of Auspex Pharmaceuticals, Inc. from October 2013 to July 2015, which was acquired by Teva Pharmaceuticals Ltd. in the spring of 2015. Previously, he was President and Chief Executive Officer of Addex Therapeutics Ltd., a biotechnology company publicly-traded on the SIX Swiss Exchange, from August 2011 to July 2013. Prior to that Dr. Chowrira held various leadership and management positions at Nektar Therapeutics (COO), Merck & Co, or Merck (VP), Sirna Therapeutics (GC; acquired by Merck) and Ribozyme Pharmaceuticals (chief patent counsel). Dr. Chowrira is currently a member of the board of directors of Vedanta Biosciences, Inc., or Vedanta. Dr. Chowrira received a J.D. from the University of Denver's Sturm College of Law, a Ph.D. in Molecular

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Biology from the University of Vermont College of Medicine, an M.S. in Molecular Biology from Illinois State University and a B.S. in Microbiology from the UAS, Bangalore, India.

Eric Elenko, Ph.D. has served as our Chief Innovation Officer since June 2015 and held various other positions at PureTech prior thereto. While at PureTech, Dr. Elenko has led the development of a number of programs, including Akili Interactive Labs, Gelesis, Karuna Therapeutics and Sonde Health. Dr. Elenko serves on the board of directors of Sonde and Alivio. Prior to joining PureTech, Dr. Elenko was a consultant with McKinsey and Company from February 2002 to September 2005, where he advised senior executives of both Fortune 500 and specialty pharmaceutical companies on a range of issues such as product licensing, mergers and acquisitions, research and development strategy and marketing. Dr. Elenko received a B.A. in Biology from Swarthmore College and his Ph.D. in Biomedical Sciences from University of California, San Diego.

Joep Muijers, Ph.D. has served as our Chief Portfolio Strategy since May 2020, and previously served as our Chief Financial Officer from April 2018 to May 2020. Prior to joining PureTech, he was a Portfolio Manager and Partner at Life Science Partners, a specialist investor group with sole focus on investing in healthcare and life sciences, in The Netherlands and in Boston for 11 years. Prior to joining LSP, he held the position of Director Corporate Finance and Capital Markets at Fortis Bank, currently part of ABN AMRO. Dr. Muijers is currently a member of the board of directors of Alivio, Entrega, Follica and Sonde. Dr. Muijers received a master of science degree from the University of Nijmegen and a Ph.D. from EMBL Heidelberg.

Stephen Muniz, J.D. has served as our Chief Operating Officer and a member of our board of directors since June 2015, and previously served as Executive Vice President of Legal, Finance and Operations since 2007. Prior to joining PureTech, Mr. Muniz was a Partner in the Corporate Department of Locke Lord LLP, where he practiced law for ten years. Mr. Muniz's practice at Locke Lord LLP focused on the representation of life science venture funds as well as their portfolio companies in general corporate matters and in investment and liquidity transactions. He was also a Kauffman Entrepreneur Fellow, a program sponsored by the Kauffman Foundation. Mr. Muniz also sits on the board of directors of Entrega, Follica and Alivio. Mr. Muniz received a B.A. in Economics and Accounting from The College of the Holy Cross and a JD from the New England School of Law where he graduated summa cum laude.

Daphne Zohar has served as our Chief Executive Officer and a member of our board of directors since our formation and UK main market listing in 2015 and served as the founding Chief Executive Officer of a number of our Founded Entities. A successful entrepreneur, Ms. Zohar created PureTech, assembling a leading team and scientific network to help implement her vision for the company, and was a key participant in fundraising, business development and establishing the underlying programs and platforms that have resulted in PureTech's substantial pipeline of 24 products and product candidates to date, including two products that have been cleared by the U.S. Food and Drug Administration and granted marketing authorization in the European Economic Area, or EEA. Ms. Zohar has been recognized as a top leader and innovator in biotechnology by a number of sources, including BioWorld, MIT's Technology Review, the Boston Globe, and Scientific American. She is an Editorial Advisor to Xconomy, a U.S. news company. Previously, Ms. Zohar has served on a number of private company boards. Ms. Zohar received a Bachelor of Science degree from Northeastern University.

Non-Employee Directors

Raju Kucherlapati, Ph.D. has served as a member of our board of directors since 2014. He has been the Paul C. Cabot Professor of Genetics and a professor of medicine at Harvard Medical School since 2001. Dr. Kucherlapati currently serves on the board of directors of Gelesis, Inc. and KEW Inc. He was a founder and former board member of Abgenix, Cell Genesys and Millennium Pharmaceuticals. He is a fellow of the American Association for the Advancement of Science and a member of the Institute of Medicine of NAS. Dr. Kucherlapati received his Ph.D. from the University of Illinois. He trained at Yale and has held faculty positions at Princeton University, University of Illinois College of Medicine and the Albert Einstein College of Medicine. He served on the editorial board of the New England Journal of Medicine and was Editor in Chief of the journal Genomics. His

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laboratory at Harvard Medical School is involved in cloning and characterization of human disease genes with a focus on human syndromes with a significant cardiovascular involvement, use of genetic/genomic approaches to understand the biology of cancer and the generation and characterization of genetically modified mouse models for cancer and other human disorders.

John LaMattina, Ph.D. has served as a member of our board of directors since 2009. Dr. LaMattina previously worked at Pfizer in different roles from 1977 to 2007, including Vice President of U.S. Discovery Operations in 1993, Senior Vice President of Worldwide Discovery Operations in 1998, Senior Vice President of Worldwide Development in 1999, and President of Global Research and Development from 2003 to 2007. Dr. LaMattina serves on the board of directors of Ligand Pharmaceuticals, Zafgen, Inc., Immunome Inc. and Vedanta and is Chairman of the board of directors of Alivio. He also serves on the Scientific Advisory Board of Frequency Therapeutics and is a Trustee Associate of Boston College. During Dr. LaMattina's leadership tenure, Pfizer discovered and/or developed a number of important new medicines including Tarceva, Chantix, Zolof, Selzentry and Lyrica, along with a number of other medicines currently in late stage development for cancer, rheumatoid arthritis and pain. He is the author of numerous scientific publications and U.S. patents. Dr. LaMattina received the 1998 Boston College Alumni Award of Excellence in Science and the 2004 American Diabetes Association Award for Leadership and Commitment in the Fight Against Diabetes. He was awarded an Honorary Doctor of Science degree from the University of New Hampshire in 2007. In 2010, he was the recipient of the American Chemical Society's Earle B. Barnes Award for Leadership in Chemical Research Management. He is the author of "Devalued and Distrusted—Can the Pharmaceutical Industry Restore its Broken Image," "Drug Truths: Dispelling the Myths About Pharma R&D" and an author of the Drug Truths blog at Forbes.com. Dr. LaMattina received a B.S. in Chemistry from Boston College and received a Ph.D. in Organic Chemistry from the University of New Hampshire. He then moved on to Princeton University as a National Institutes of Health Postdoctoral Fellow in the laboratory of professor E. C. Taylor.

Robert Langer, Sc.D. has served as a member of our board of directors since our founding and is our co-founder. Dr. Langer has served as the David H. Koch Institute Professor at MIT since 2005. He served as a member of the FDA's Science Board from 1995 to 2002 and as its Chairman from 1999 to 2002. Dr. Langer serves on the board of directors of Seer Bio, Abpro Bio, Frequency Therapeutics, Alivio Therapeutics, Entrega, Inc. and Moderna, Inc. Dr. Langer has received over 220 major awards, including the 2006 U.S. National Medal of Science, the Charles Stark Draper Prize in 2002 and the 2012 Priestley Medal. He is also the first engineer to ever receive the Gairdner Foundation International Award. Dr. Langer has received the Dickson Prize for Science, Heinz Award, Harvey Prize, John Fritz Award, General Motors Kettering Prize for Cancer Research, Dan David Prize in Materials Science, Breakthrough Prize in Life Sciences, National Medal of Science, National Medal of Technology and Innovation, Kyoto Prize, Wolf Prize, Albany Medical Center Prize in Medicine and Biomedical Research and the Lemelson-MIT prize. In 2006, he was inducted into the National Inventors Hall of Fame. In January 2015, Dr. Langer was awarded the 2015 Queen Elizabeth Prize for Engineering. Dr. Langer received his bachelor's degree in Chemical Engineering from Cornell University and his Sc.D. in Chemical Engineering from MIT.

Dame Marjorie Scardino has served as a member of our board of directors since 2015. She served as Chairman of The MacArthur Foundation from 2012 to 2017. Dame Scardino previously served as Chief Executive Officer of The Economist and as the Chief Executive Officer of Pearson plc, the world's leading education company and the owner of Penguin Books and The Financial Times Group. She is a member of the non-profit board of directors of Oxfam, The Royal College of Art and The Carter Center. She was previously a member of the board of directors of Twitter and International Airlines Group. Dame Scardino has received a number of honorary degrees, and in 2003 was dubbed a Dame of the British Empire. She is also a member of the Royal Society of the Arts in the UK and the American Association of Arts and Sciences.

Christopher Viehbacher has served as a member of our board of directors since 2015 and as Chairman since September 2019. He has been the managing partner of Gurnet Point Capital since October 2014. Immediately prior to joining Gurnet Point Capital, Mr. Viehbacher served as the Chief Executive Officer and member of the

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board of directors of Sanofi from December 2008 to October 2014. From 1993 to 2008, Mr. Viehbacher worked at GlaxoSmithKline in different roles, including ultimately President of its North American pharmaceutical division. Mr. Viehbacher began his career with PricewaterhouseCoopers LLP and qualified as a Chartered Accountant. Mr. Viehbacher currently serves on the board of the directors of Vedanta Biosciences as Chairman, Axcella Health Inc., Alladapt, BEFORE Brands, Corium, Crossover Health, Boston Pharmaceuticals, Zikani, York River Holdings and Gurnet Point Capital LLC. Mr. Viehbacher also serves on the Board of Trustees of Northeastern University and the Board of Fellows of Stanford Medical School. Mr. Viehbacher has co-chaired the Chief Executive Officer Roundtable on Neglected Diseases with Bill Gates and formerly chaired the Chief Executive Officer Roundtable on Cancer. He was the Chairman of the Board of the Pharmaceutical Research and Manufacturers of America as well as President of the European Federation of Pharmaceutical Industries and Associations. At the World Economic Forum at Davos, Mr. Viehbacher was a Chair of the Health Governors and co-chaired an initiative to create a Global Charter for Healthy Living. He was also a member of the International Business Council. Mr. Viehbacher has received the Pasteur Foundation Award for outstanding commitment to safeguarding and improving health worldwide. He has also received France's highest civilian honor, the L'egion d'Honneur. Mr. Viehbacher received his bachelor's degree in Commerce from Queen's University in Ontario, Canada in 1983.

B. Advisers

Our principal United States legal adviser is Goodwin Procter LLP, located at 100 Northern Avenue, Boston, MA 02210 and our principal United Kingdom legal adviser is DLA Piper LLP, located at 160 Aldersgate Street, London EC1A 4HT, United Kingdom.

C. Auditors

KPMG LLP has been our auditor since 2015. The address for KPMG LLP is 15 Canada Square, London E14 5GL, United Kingdom.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

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ITEM 3. KEY INFORMATION
A. SELECTED FINANCIAL DATA

We derived the selected consolidated financial data as of and for the years ended December 31, 2019, 2018 and 2017 from our audited consolidated financial statements included elsewhere in this Registration Statement on Form 20-F. We have derived the selected consolidated financial data as of and for the six months ended June 30, 2020 and 2019 from our unaudited condensed consolidated financial statements included elsewhere in this Registration Statement on Form 20-F. The unaudited condensed consolidated financial statements have been prepared on the same recognition and measurement basis as the audited financial statements and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary to state fairly our financial position as of June 30, 2020 and the results of operations for the six months ended June 30, 2020 and 2019. We present our consolidated financial statements in accordance with International Financial Reporting Standards, as issued by the International Accounting Standards Board.

The summary consolidated financial data below should be read together with those consolidated financial statements as well as the Item 5. “Operating and Financial Review and Prospects.” Our historical results for any prior period are not necessarily indicative of results to be expected in any future period, and our interim period results are not necessarily indicative of results to be expected for a full year or any other interim period.

Consolidated Income Statement Data

	December 31, December 31,			June 30, June 30,	
	2019	2018	2017	2020	2019
(in thousands, except per share data)					
Contract revenue	\$ 8,688	\$ 16,371	\$ 650	\$ 5,465	\$ 3,955
Grant revenue	1,119	4,377	1,885	1,379	432
Total Revenue	9,807	20,748	2,535	6,844	4,387
Operating expenses:					
General and administrative expenses	(59,358)	(47,365)	(46,283)	(21,376)	(29,196)
Research and development expenses	(85,848)	(77,402)	(71,672)	(38,250)	(45,507)
Operating income/(loss)	(135,399)	(104,019)	(115,420)	(52,782)	(70,317)
Other income/(expense):					
Gain on deconsolidation	264,409	41,730	85,016	—	108,395
Gain/(loss) on investments held at fair value	(37,863)	(34,615)	57,334	276,910	52,375
Loss realized on sale of investment	—	—	—	(44,539)	—
Loss on impairment of intangible asset	—	(30)	—	—	—
Gain/(loss) on disposal of assets	(82)	4,060	—	—	—
Gain on loss of significant influence	445,582	10,287	—	—	—
Other income/(expense)	121	(278)	14	482	(41)
Other income/(loss)	672,167	21,154	142,364	232,852	160,729
Finance income/(costs):					
Finance income	4,362	3,358	1,750	1,032	2,383
Finance income/(costs) – subsidiary preferred shares	(1,458)	(106)	(9,509)	—	(1,425)
Finance income/(costs) – contractual	(2,576)	34	(553)	(1,213)	(2,106)
Finance income/(costs) – fair value accounting	(46,475)	22,631	(71,735)	1,866	(32,978)
Net finance income/(costs)	(46,147)	25,917	(80,047)	1,685	(34,126)
Share of net gain/(loss) of associates accounted for using the equity method	30,791	(11,490)	(17,608)	(7,271)	—
Impairment of investment in associate	(42,938)	—	—	—	—
Income/(loss) before income taxes	478,474	(68,438)	(70,711)	174,483	56,287
Taxation	(112,409)	(2,221)	(4,383)	(50,775)	(25,142)
Net income/(loss) including non-controlling interest	366,065	(70,659)	(75,094)	123,708	31,145
Net (loss)/income attributable to the Company	\$ 421,144	\$ (43,654)	\$ 26,472	\$123,957	\$ 73,506
Earnings/(loss) per share:					
Basic earnings/(loss) per share	\$ 1.49	\$ (0.16)	\$ 0.11	\$ 0.43	\$ 0.26
Diluted earnings/(loss) per share	\$ 1.44	\$ (0.16)	\$ 0.11	\$ 0.42	\$ 0.26

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Consolidated Balance Sheet Data

(in thousands)	As of December 31,			As of June 30,
	2019	2018	2017	2020
Cash and cash equivalents	\$132,360	\$ 117,051	\$ 72,649	\$ 340,120
Working capital (1)	29,643	(5,978)	(75,753)	190,832
Total assets	941,178	441,763	339,846	1,105,523
Retained earnings/(accumulated deficit)	254,444	(167,692)	(132,270)	378,400
Total equity	650,398	166,972	59,600	766,879

(1) We define working capital as current assets less current liabilities. We rely on working capital to fund future operations and advance our research and development activities. Our working capital as of December 31, 2019, 2018 and 2017 is calculated as follows (in thousands): December 31, 2019, \$168,845-\$139,201=\$29,643; December 31, 2018, \$259,786-\$265,764=\$(5,978); December 31, 2017, \$198,109-\$273,862=\$(75,753). Our working capital as of June 30, 2020 is calculated as follows (in thousands): \$346,871-\$156,039=\$190,832.

B. CAPITALIZATION AND INDEBTEDNESS

The table below sets forth our cash and cash equivalents and shows our capitalization as of June 30, 2020. You should read this table in conjunction with our unaudited condensed consolidated financial statements included in this Registration Statement on Form 20-F, together with the accompanying notes and the other information appearing under the heading “Item 5. Operating and Financial Review and Prospects”.

(in thousands, except share and per share data)	As of June 30, 2020
Cash and cash equivalents	\$ 340,120
Debt:	
Notes payable	1,455
Shareholders' equity:	
Share capital, nominal value £0.01 par value per ordinary share; 285,512,461 shares issued and outstanding	5,411
Merger reserve	138,506
Share premium	288,225
Other reserve	(26,776)
(Accumulated deficit)/retained earnings	378,400
Equity attributable to the owners of the Company	783,766
Equity attributable to the non-controlling interests	(16,887)
Total Capitalization	766,879
Total Capitalization and Indebtedness	\$ 768,334

C. REASONS FOR THE OFFER AND USE OF PROCEEDS

Not applicable.

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D. RISK FACTORS

Our business faces significant risks. You should carefully consider all of the information set forth in this registration statement, including the following risk factors which we face and which are faced by our industry. Our business, financial condition or results of operations could be materially and adversely affected if any of these risks occurs. This registration statement also contains forward-looking statements that involve risks and uncertainties. See “Special Note Regarding Forward-Looking Statements.” Our actual results could differ materially and adversely from those anticipated in these forward-looking statements as a result of certain factors including the risks described below and elsewhere in this registration statement. See “Special Note Regarding Forward-Looking Statements.”

Risks Related to our Financial Position, Need for Additional Capital and Growth Strategy

We are a clinical-stage biopharmaceutical company and have incurred significant operating losses since our inception. We may continue to incur significant operating losses for the foreseeable future.

Investment in biotechnology product development, as well as medical device development, is highly speculative because it entails substantial upfront capital expenditures and significant risk that any potential product candidate will be unable to demonstrate effectiveness or an acceptable safety profile, gain regulatory approval and become commercially viable. To date, only two of our Founded Entities’ products, Gelesis’ Plenity and Akili’s EndeavorRx, have received marketing clearance from the U.S. Food and Drug Administration, or the FDA. All of our Wholly Owned Programs and the majority of our Founded Entities’ product candidates may require substantial additional development time, including extensive clinical research, and resources before we would be able to apply for or receive regulatory clearances or approvals and begin generating revenue from product sales.

Since our inception, we have invested most of our resources in developing our technology and product candidates, building our intellectual property portfolio, developing our supply chain, conducting business planning, raising capital and providing general and administrative support for these operations, including with respect to our Founded Entities. We are not operationally profitable and have incurred losses in each year since our inception. Our operating losses for the years ended December 31, 2017, 2018, and 2019 and the six months ended June 30, 2020 were \$115.4 million, \$104.0 million, \$135.4 million, and \$52.8 million, respectively. We have no products developed in our Wholly Owned Programs approved for commercial sale and have not generated any revenues from product sales, and we and our Founded Entities have financed operations solely through the sale of equity securities, revenue from strategic alliances and government funding and, with respect to certain of our Founded Entities, debt financings. We continue to incur significant research and development, or R&D, and other expenses related to ongoing operations and expect to incur losses for the foreseeable future. We anticipate continued losses for the foreseeable future.

Due to risks and uncertainties associated with the development of drugs, biologics and medical devices, we are unable to predict the timing or amount of our expenses, or when we will be able to generate any meaningful revenue or achieve or maintain profitability, if ever. In addition, our expenses could increase beyond our current expectations if we are required by the FDA, the European Medicines Agency, or the EMA, or other comparable foreign regulatory authorities to perform preclinical studies or clinical trials in addition to those that we currently anticipate, or if there are any delays in any of our or our future collaborators’ clinical trials or the development of our existing product candidates and any other product candidates that we may identify. Even if our existing product candidates or any future product candidates that we may identify are approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product and ongoing compliance efforts.

As of June 30, 2020 we had never generated revenue from our Wholly Owned Pipeline, and we may never be operationally profitable.

While Gelesis and Akili have received marketing clearance for Plenity and EndeavorRx, respectively, from the FDA, we may never be able to develop or commercialize marketable products or achieve operational profitability. Revenue from the sale of any product candidate for which regulatory clearance or approval is

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obtained will be dependent, in part, upon the size of the markets in the territories for which we gain regulatory clearance or approval, the accepted price for the product, the ability to obtain reimbursement at any price and whether we own the commercial rights for that territory. Our growth strategy depends on our ability to generate revenue. In addition, if the number of addressable patients is not as anticipated, the indication or intended use cleared or approved by regulatory authorities is narrower than expected, or the reasonably accepted population for treatment is narrowed by competition, physician choice or treatment guidelines, we may not generate significant revenue from sales of such products, even if cleared or approved. Even if we are able to generate revenue from the sale of any approved products, we may not become operationally profitable and may need to obtain additional funding to continue operations. Even if we achieve operational profitability in the future, we may not be able to sustain profitability in subsequent periods.

If we are unable to achieve sustained profitability would depress the value of our company and could impair our ability to raise capital, expand our business, diversify our research and development pipeline, market our Wholly Owned product candidates, if cleared or approved, and pursue or continue our operations. Our prior losses, combined with expected future losses, have had and may continue to have an adverse effect on our shareholders' equity and working capital.

We may require substantial additional funding to achieve our business goals. If we are unable to obtain this funding when needed and on acceptable terms, we could be forced to delay, limit or terminate certain of our product development efforts. Certain of our Founded Entities will similarly require substantial additional funding to achieve their business goals.

We are currently advancing a pipeline of four Wholly Owned product candidates, three of which are in preclinical development and one of which is conducting a Phase 1 clinical trial. Our Controlled Founded Entities are advancing nine product candidates, including one that is expected to enter a Phase 3 study and three that are in Phase 2 development. Our Non-Controlled Founded Entities are advancing 10 products and product candidates, including two that are expected to enter Phase 3/pivotal clinical trials and two FDA-cleared products. Developing biopharmaceutical products is expensive and time-consuming, and with respect to our Wholly Owned Programs, we expect to require substantial additional capital to conduct research, preclinical studies and clinical trials for our current and future programs, establish pilot scale and commercial scale manufacturing processes and facilities, seek regulatory clearances and approvals for our Wholly Owned product candidates and launch and commercialize any products for which we receive regulatory clearance or approval, including building our own commercial sales, marketing and distribution organization. With respect to our Founded Entities' programs, we anticipate that we will continue to fund a small portion of development costs by strategically participating in such companies' financings when doing so would be in the interests of our shareholders. The form of any such participation may include investment in public or private financings, collaboration and partnership arrangements and licensing arrangements, among others. Our management and strategic decision makers have not made decisions regarding the future allocation of certain of our resources among our Founded Entities, but evaluate the needs and opportunities with respect to each of these Founded Entities routinely and on a case-by-case basis. In connection with any collaboration agreements relating to our Wholly Owned Programs, we are also responsible for the payments to third parties of expenses that may include milestone payments, license maintenance fees and royalties, including in the case of certain of our agreements with academic institutions or other companies from whom intellectual property rights underlying their respective programs have been in-licensed or acquired. Because the outcome of any preclinical or clinical development and regulatory approval process is highly uncertain, we cannot reasonably estimate the actual amounts necessary to successfully complete the development, regulatory approval process and potential commercialization of our Wholly Owned product candidates and any future product candidates we may identify.

As of June 30, 2020, we had cash, cash equivalents and short-term investments of \$340.1 million. However, our operating plan may change as a result of many factors currently unknown to us, and we may need to seek additional funds sooner than planned, through public or private equity or debt financings, sales of assets or programs, other sources, such as strategic collaborations or license and development agreements, or a combination of these approaches. Even if we believe we have sufficient funds for our current or future operating

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plans, we may opportunistically seek additional capital if market conditions are favorable or if we have specific strategic considerations. Our spending will vary based on new and ongoing product development and corporate activities. Any such additional fundraising efforts for us may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize product candidates that we may identify and pursue. Moreover, such financing may result in dilution to shareholders, imposition of debt covenants and repayment obligations, or other restrictions that may affect our business.

Our future funding requirements, both short-term and long-term, will depend on many factors, including, but not limited to:

- the time and cost necessary to complete ongoing, planned and future unplanned clinical trials, including our planned Phase 2 trial in serious respiratory complications that persist following the resolution of COVID-19 and proof-of-concept trial in breast cancer-related, upper limb secondary lymphedema for LYT-100, our anticipated Phase 1 clinical trial for LYT-200, and our anticipated first-in-human trial for LYT-300;
- the outcome, timing and cost of meeting regulatory requirements established by the FDA, the EMA and other comparable foreign regulatory authorities;
- the progress, timing, scope and costs of our preclinical studies, clinical trials and other related activities for our ongoing and planned clinical trials, and potential future clinical trials;
- the costs of obtaining clinical and commercial supplies of raw materials and drug products for our Wholly Owned product candidates, as applicable, and any other product candidates we may identify and develop;
- our ability to successfully identify and negotiate acceptable terms for third-party supply and contract manufacturing agreements with contract manufacturing organizations, or CMOs;
- the costs of commercialization activities for any of our Wholly Owned product candidates that receive marketing approval, including the costs and timing of establishing product sales, marketing, distribution and manufacturing capabilities, or entering into strategic collaborations with third parties to leverage or access these capabilities;
- the amount and timing of sales and other revenues from our Wholly Owned product candidates, if approved, including the sales price and the availability of coverage and adequate third-party reimbursement;
- the cash requirements of our Founded Entities and our ability and willingness to provide them with financing;
- the cash requirements of any future acquisitions or discovery of product candidates;
- the time and cost necessary to respond to technological and market developments, including other products that may compete with one or more of our Wholly Owned product candidates;
- the costs of acquiring, licensing or investing in intellectual property rights, products, product candidates and businesses;
- our ability to attract, hire and retain qualified personnel as we expand research and development and establish a commercial infrastructure;
- the costs of maintaining, expanding and protecting our intellectual property portfolio; and
- the costs of operating as a public company in the United Kingdom and the United States and maintaining listings on both the London Stock Exchange, or the LSE, and The Nasdaq Global Market, or Nasdaq.

We cannot be certain that additional funding will be available on acceptable terms, or at all. If adequate funds are not available to us on a timely basis, we may be required to delay, limit or terminate one or more research or development programs or the potential commercialization of any approved products or be unable to expand

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operations or otherwise capitalize on business opportunities, as desired, which could materially affect our business, prospects, financial condition and results of operations.

Raising additional capital may cause dilution to our existing shareholders, restrict our operations or require us to relinquish rights to current product candidates or to any future product candidates on unfavorable terms.

We expect our expenses to increase in connection with our planned operations. Unless and until we can generate a substantial amount of revenue from our Wholly Owned product candidates or royalties and other monetization events related to our Founded Entities, we expect to finance our future cash needs through a combination of public and private equity offerings, debt financings, strategic partnerships, sales of assets and alliances and licensing arrangements. We, and indirectly, our shareholders, may bear the cost of issuing and servicing any such securities and of entering into and maintaining any such strategic partnerships or other arrangements. Because any decision by us to issue debt or equity securities in the future will depend on market conditions and other factors beyond our control, we cannot predict or estimate the amount, timing or nature of any future financing transactions. To the extent that we or our Founded Entities raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms may include liquidation or other preferences that adversely affect your rights as a shareholder. The incurrence of additional indebtedness would result in increased fixed payment obligations and could involve additional restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. Additionally, any future collaborations we enter into with third parties may provide capital in the near term, but limit our potential cash flow and revenue in the future. If we raise additional funds through strategic partnerships and alliances and licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies or product candidates, or grant licenses or other rights on unfavorable terms.

In addition, if any of our Founded Entities raises funds through the issuance of equity securities, our shareholders' indirect equity interest in such Founded Entity could be substantially diminished. If any of our Founded Entities raises additional funds through collaboration and licensing arrangements, it may be necessary to relinquish some rights to our technologies or these product candidates or grant licenses on terms that are not favorable to us.

If we engage in acquisitions or strategic partnerships, this may increase our capital requirements, dilute our shareholders, cause us to incur debt or assume contingent liabilities and subject us to other risks.

We may engage in various acquisitions and strategic partnerships in the future, including licensing or acquiring complementary products, intellectual property rights, technologies or businesses. Any acquisition or strategic partnership may entail numerous risks, including:

- increased operating expenses and cash requirements;
- the assumption of indebtedness or contingent liabilities;
- the issuance of our equity securities which would result in dilution to our shareholders;
- assimilation of operations, intellectual property, products and product candidates of an acquired company, including difficulties associated with integrating new personnel;
- the diversion of our management's attention from our existing product programs and initiatives in pursuing such an acquisition or strategic partnership;
- retention of key employees, the loss of key personnel and uncertainties in our ability to maintain key business relationships;
- risks and uncertainties associated with the other party to such a transaction, including the prospects of that party and their existing products or product candidates and regulatory approvals; and
- our inability to generate revenue from acquired intellectual property, technology and/or products sufficient to meet our objectives or even to offset the associated transaction and maintenance costs.

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In addition, if we undertake such a transaction, we may issue dilutive securities, assume or incur debt obligations, incur large one-time expenses and acquire intangible assets that could result in significant future amortization expense.

The failure to maintain our licenses and realize their benefits may harm our business.

We have acquired and in-licensed certain of our technologies from third parties. We may in the future acquire, in-license or invest in additional technology that we believe would be beneficial to our business. We are subject to a number of risks associated with our acquisition, in-license or investment in technology, including the following:

- diversion of financial and managerial resources from existing operations;
- successfully negotiating a proposed acquisition, in-license or investment in a timely manner and at a price or on terms and conditions favorable to us;
- successfully combining and integrating a potential acquisition into our existing business to fully realize the benefits of such acquisition;
- the impact of regulatory reviews on a proposed acquisition, in-license or investment; and
- the outcome of any legal proceedings that may be instituted with respect to the proposed acquisition, in-license or investment.

If we fail to properly evaluate potential acquisitions, in-licenses, investments or other transactions associated with the creation of new R&D programs or the maintenance of existing ones, we might not achieve the anticipated benefits of any such transaction, we might incur costs in excess of what we anticipate, and management resources and attention might be diverted from other necessary or valuable activities.

Risks Related to Our Founded Entities

Our ability to realize value from our Founded Entities may be impacted if we reduce our ownership or otherwise cede control to other investors through contractual agreements or otherwise.

We do not have a majority interest in our Non-Controlled Founded Entities. Our interests may be further reduced as such companies raise capital from third-party investors. In addition, we may agree to contractual arrangements for the funding of further developments by one or more of our Founded Entities. As a result, with respect to our Non-Controlled Founded Entities, we may not be able to exercise control over the affairs of such Founded Entity, including that Founded Entity's governance arrangements and access to management and financial information. We are also party to agreements with certain of our Founded Entities that contain provisions which could force us to exit from that Founded Entity at a time and/or price determined by other investor(s) (for example, by the exercise of drag-along rights). If we were forced to exit out of a Founded Entity, this could have a material adverse effect on our business, financial condition or results of operations and prospects. In addition, if the affairs of one or more Founded Entities in which we hold a minority stake were to be conducted in a manner detrimental to our interests or intentions, our business, reputation and prospects may be adversely affected.

As certain of our Founded Entities have completed equity financings, they have entered into certain agreements with the investors participating in such financings, including us. We are party to voting agreements with Entrega, Inc., or Entrega, Sonde Health, Inc., or Sonde, and Vor Biopharma, Inc., or Vor, investors' rights agreements with Akili Interactive Labs, Inc., or Akili, Karuna Therapeutics, Inc., or Karuna, Follica, Incorporated, or Follica, Vedanta Biosciences, Inc., or Vedanta, Entrega, Sonde and Vor, and a stockholders' agreement with Gelesis, pursuant to which we are subject to certain restrictions on the transfer or sale of shares (e.g., pre-emptive rights or drag-along, tag-along rights or lock up agreements), and we may not be able freely to transfer our interest in such Founded Entities or procure the sale of the entire issued share capital of one of such Founded Entities, similar to other investors who are party to these agreements. In addition, many of our Founded Entities have employee share plans which further dilute our interest in such business. If the affairs of one or more of our Founded Entities were to be conducted in a manner detrimental to our interests or intentions or if we were unable

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to realize our interest in a Founded Entity or suffer dilution of our shareholding, this could have a material adverse effect on our business, financial condition or results of operation and prospects.

Our overall value may be dominated by a single or limited number of our Founded Entities.

A large proportion of our overall value may at any time reside in a small proportion of our Founded Entities. Accordingly, there is a risk that if one or more of the intellectual property or commercial rights relevant to a valuable business were impaired, this would have a material adverse impact on our overall value. Furthermore, a large proportion of our overall revenue may at any time be the subject of one, or a small number of, licensed technologies. Should the relevant licenses be terminated or expire this would be likely to have a material adverse effect on the revenue received by us. Any material adverse impact on the value of the business of a Founded Entity could, in the situations described above, or otherwise, have a material adverse effect on our business, financial condition, trading performance and/or prospects.

We have limited information about and limited control or influence over our Non-Controlled Founded Entities.

While we maintain ownership of equity interests in our Non-Controlled Founded Entities, we do not maintain voting control or direct management and development efforts for these entities. Each of these entities are independently managed, and we do not control the clinical and regulatory development of these Non-Controlled Founded Entities' product candidates. Any failure by our Non-Controlled Founded Entities to adhere to regulatory requirements, initiate preclinical studies and clinical trials on schedule or to obtain clearances or approvals for their product candidates could have an adverse effect on our business, financial condition, results of operation and prospects. The information included in this registration statement about our Non-Controlled Founded Entities is based on (i) our knowledge, which may in some cases be limited, (ii) information that is publicly available, including the public filings of SEC reporting companies, such as Karuna, (iii) information provided to us by our Non-Controlled Founded Entities. Where a date is provided, the information included in this registration statement about our Non-Controlled Founded Entities is as of that date and you should not assume that it is accurate as of any other date. As such, there may be developments at our Non-Controlled Founded Entities of which we are unaware that could have an adverse effect on our business, financial condition, results of operation and prospects.

Our Founded Entities are difficult to value given that many of their product candidates are in the development stage.

Investments in early-stage companies, particularly privately held entities, are inherently difficult to value since sales, cash flow and tangible asset values are very limited, which makes the valuation highly dependent on expectations of future development, and any future significant revenues would only arise in the medium to longer terms and are uncertain. Equally, investments in companies just commencing the commercial stage are also difficult to value since sales, cash flow and tangible assets are limited, they have only commenced initial receipts of revenues and valuations are still dependent on expectations of future development. There can be no guarantee that our valuation of our Founded Entities will be considered to be correct in light of the early stage of development for many of these entities and their future performance. As a result, we may not realize the full value of our ownership in such Founded Entities which could adversely affect our business and results of operations.

Certain of our and our Founded Entities' products candidates represent novel therapeutic approaches and negative perception of any product candidate that we or they develop could adversely affect our ability to conduct our business, obtain regulatory approvals or identify alternate regulatory pathways to market for such product candidate.

Certain of our and our Founded Entities' products candidates are considered relatively new and novel therapeutic approaches. Our and their success will depend upon physicians who specialize in the treatment of diseases targeted by our and their product candidates, biologics or medical devices prescribing potential treatments that involve the use of our and their product candidates in lieu of, or in addition to, existing treatments with which they are more familiar and for which greater clinical data may be available. Access will also depend on consumer

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acceptance and adoption of products that are commercialized. In addition, responses by the U.S., state or foreign governments to negative public perception or ethical concerns may result in new legislation or regulations that could limit our or our Founded Entities' ability to develop or commercialize any product candidates, obtain or maintain regulatory approval, identify alternate regulatory pathways to market or otherwise achieve profitability. More restrictive statutory regimes, government regulations or negative public opinion would have an adverse effect on our business, financial condition, results of operations and prospects and may delay or impair the development and commercialization of our or our Founded Entities' product candidates or demand for any products we or they may develop.

For example, in the United States and the European Union, no products to date have been approved specifically demonstrating an impact on the microbiome as part of their therapeutic effect. Vedanta is developing a pipeline of microbiome-derived modulators for immune and infectious disease. Microbiome therapies may not be successfully developed or commercialized or gain the acceptance of the public or the medical community. Additionally, adverse events, or AEs, in non-IND human clinical studies and clinical trials of Vedanta's product candidates or in clinical trials of other companies developing similar products and the resulting publicity, as well as any other AEs in the field of the microbiome, could result in a decrease in demand for any product that Vedanta may develop. Finally, the FDA, the EMA or other comparable foreign regulatory authorities may lack experience in evaluating the safety and efficacy of product candidates based on microbiome therapeutics, which could result in a longer than expected regulatory review process, increase expected development costs and delay or prevent potential commercialization of product candidates.

Risks Related to the Clinical Development, Regulatory Review and Approval of our and our Founded Entities' Product Candidates

Our Wholly Owned Programs and most of our Founded Entities' product candidates are in preclinical or clinical development, which is a lengthy and expensive process with uncertain outcomes and the potential for substantial delays. We cannot give any assurance that any of our and our Founded Entities' product candidates will receive regulatory approval, which is necessary before they can be commercialized.

Before obtaining marketing approval from regulatory authorities for the sale of our or our Founded Entities' product candidates, we or our Founded Entities must conduct extensive clinical trials to demonstrate the safety and efficacy of the product candidates in humans. To date, we have focused substantially all of our efforts and financial resources on identifying, acquiring, and developing product candidates, including conducting lead optimization, preclinical studies and clinical trials, and providing general and administrative support for these operations. To date, only two of our Founded Entities' product candidates, Gelesis' Plenity and Akili's EndeavorRX, have received marketing clearance from the FDA, and we cannot be certain that any of our internal or our Founded Entities' other product candidates will receive regulatory clearance or approval, the timing of such clearance or approval, if received, or that clinical trials will progress as planned. Our or our Founded Entities' inability to successfully complete preclinical and clinical development could result in additional costs to us and negatively impact our ability to generate revenue. Our future success is dependent on our and our Founded Entities' ability to successfully develop, obtain regulatory approval for, and then successfully commercialize product candidates. We and our Founded Entities, with the exceptions of Gelesis and Akili, currently have no drugs approved or devices cleared or approved for sale and have not generated any revenue from sales of drugs or devices. We cannot guarantee that we or our Founded Entities will be able in the future to develop or successfully commercialize any of our or their product candidates. Additionally, there is no FDA approved live biological therapeutic using a defined cocktail of microbes, which could result in regulatory complexity in Vedanta's pipeline. There is also no approved drug therapy for lymphedema, which will require us to come to an agreement with the FDA on requirements for approval.

Other than Gelesis' Plenity and Akili's EndeavorRx, all of our Wholly Owned Programs and our Founded Entities' product candidates require additional development; management of preclinical, clinical, and manufacturing activities; and/or regulatory clearances or approvals. In addition, we or our Founded Entities may need to obtain adequate manufacturing supply; build a commercial organization; commence marketing efforts; and obtain coverage and reimbursement before we generate any significant revenue from commercial product

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sales, if ever. Many of our Wholly Owned Programs and our Founded Entities' product candidates are in early-stage research or translational phases of development, and the risk of failure for these programs is high. We cannot be certain that any of our Wholly Owned Programs or our Founded Entities' product candidates will be successful in clinical trials or receive regulatory approval or clearance. Further, our Wholly Owned Programs or our Founded Entities' product candidates may not receive regulatory clearance or approval even if we believe they are successful in clinical trials. If we or our Founded Entities do not receive regulatory approval for our or their product candidates, we may not be able to continue operations, which may result in dissolution, out-licensing the technology or pursuing an alternative strategy.

Preclinical development is uncertain. Our preclinical programs may experience delays or may never advance to clinical trials, which would adversely affect our ability to obtain regulatory approvals or commercialize these programs on a timely basis or at all, which would have an adverse effect on our business.

All but one of our Wholly Owned product candidates, LYT-100, are still in the preclinical stage, and their risk of failure is high. Before we can commence clinical trials for a product candidate, we must complete extensive preclinical testing and studies that support our planned investigational new drug applications, or INDs, in the United States, or similar applications in other jurisdictions. We cannot be certain of the timely completion or outcome of our preclinical testing and studies and cannot predict if the FDA or other regulatory authorities will accept our proposed clinical programs or if the outcome of our preclinical testing and studies will ultimately support the further development of our programs. As a result, we cannot be sure that we will be able to submit INDs or similar applications for our preclinical programs on the timelines we expect, if at all, and we cannot be sure that submission of INDs or similar applications will result in the FDA, the EMA or other regulatory authorities allowing clinical trials to begin.

Clinical trials of our or our Founded Entities' product candidates may be delayed, and certain programs may never advance in the clinic or may be more costly to conduct than we anticipate, any of which can affect our ability to fund our company and would have a material adverse impact on our platform or our business.

Clinical testing is expensive, time-consuming, and subject to uncertainty. We cannot guarantee that any of our planned clinical trials will be conducted as planned or completed on schedule, if at all. Moreover, even if these trials are initiated or conducted on a timely basis, issues may arise that could result in the suspension or termination of such clinical trials. A failure of one or more clinical trials can occur at any stage of testing, and our clinical trials may not be successful. Events that may prevent successful or timely initiation or completion of clinical trials include:

- inability to generate sufficient preclinical, toxicology, or other *in vivo* or *in vitro* data to support the initiation or continuation of clinical trials;
- delays in confirming target engagement, patient selection or other relevant biomarkers to be utilized in preclinical and clinical product candidate development;
- delays in reaching a consensus with regulatory agencies as to the design or implementation of our clinical studies;
- delays in reaching agreement on acceptable terms with prospective contract research organizations, or CROs, and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites;
- delays in identifying, recruiting and training suitable clinical investigators;
- delays in obtaining required Institutional Review Board, or IRB, approval at each clinical trial site;
- imposition of a temporary or permanent clinical hold by regulatory agencies for a number of reasons, including after review of an IND or amendment, clinical trial application, or CTA, or amendment, investigational device exemption, or IDE, or supplement, or equivalent application or amendment; as a result of a new safety finding that presents unreasonable risk to clinical trial participants; or a negative finding from an inspection of our clinical trial operations or study sites;

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- developments in trials for other product candidates with the same targets or related modalities as our or our Founded Entities' product candidates conducted by competitors that raise regulatory or safety concerns about risk to patients of the treatment, or if the FDA finds that the investigational protocol or plan is clearly deficient to meet its stated objectives;
- difficulties in securing access to materials for the comparator arm of certain of our clinical trials;
- delays in identifying, recruiting and enrolling suitable patients to participate in clinical trials, and delays caused by patients withdrawing from clinical trials or failing to return for post-treatment follow-up;
- difficulties in finding a sufficient number of trial sites, or trial sites deviating from trial protocol or dropping out of a trial;
- difficulty collaborating with patient groups and investigators;
- failure by CROs, other third parties, or us to adhere to clinical trial requirements;
- failure to perform in accordance with the FDA's or any other regulatory authority's current good clinical practices, or GCP, requirements, or regulatory guidelines in other countries;
- occurrence of AEs or undesirable side effects or other unexpected characteristics associated with the product candidate that are viewed to outweigh its potential benefits;
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols;
- changes in the standard of care on which a clinical development plan was based, which may require new or additional trials;
- the cost of clinical trials of any product candidates that we may identify and pursue being greater than we anticipate;
- clinical trials of any product candidates that we may identify and pursue producing negative or inconclusive results, which may result in our deciding, or regulators requiring us, to conduct additional clinical trials or abandon product development programs;
- transfer of manufacturing processes to larger-scale facilities operated by a CMO, or by us, and delays or failures by our CMOs or us to make any necessary changes to such manufacturing process; and
- delays in manufacturing, testing, releasing, validating, or importing/exporting sufficient stable quantities of product candidates that we may identify for use in clinical trials or the inability to do any of the foregoing.

Any inability to successfully initiate or complete clinical trials could result in additional costs to us or impair our ability to generate revenue. In addition, if we make manufacturing or formulation changes to our Wholly Owned product candidates, we may be required to or we may elect to conduct additional preclinical studies or clinical trials to bridge data obtained from our modified product candidates to data obtained from preclinical and clinical research conducted using earlier versions. Clinical trial delays could also shorten any periods during which our products have patent protection and may allow our competitors to bring products to market before we do, which could impair our ability to successfully commercialize product candidates and may harm our business and results of operations.

We could also encounter delays if a clinical trial is suspended or terminated by us, by the data safety monitoring board, or DSMB, or by the FDA, the EMA or other comparable foreign regulatory authorities, or if the IRBs of the institutions in which such trials are being conducted suspend or terminate the participation of their clinical investigators and sites subject to their review. Such authorities may suspend or terminate a clinical trial due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA, the EMA or other comparable foreign regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues

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or adverse side effects, failure to demonstrate a benefit from using a product candidate, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial.

Moreover, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. Under certain circumstances, we may be required to report some of these relationships to the FDA, the EMA or comparable foreign regulatory authorities. The FDA, the EMA or comparable foreign regulatory authority may conclude that a financial relationship between us and a principal investigator has created a conflict of interest or otherwise affected interpretation of the study. The FDA, the EMA or comparable foreign regulatory authority may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA, the EMA or comparable foreign regulatory authority, as the case may be, and may ultimately lead to the denial of marketing approval of one or more of our Wholly Owned or our Founded Entities' product candidates.

Delays in the initiation, conduct or completion of any clinical trial of our Wholly Owned product candidates will increase our costs, slow down the product candidate development and approval process and delay or potentially jeopardize our ability to commence product sales and generate revenue. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our Wholly Owned or our Founded Entities' product candidates. In the event we identify any additional product candidates to pursue, we cannot be sure that submission of an IDE, IND, CTA, or equivalent application, as applicable, will result in the FDA, the EMA or comparable foreign regulatory authority allowing clinical trials to begin in a timely manner, if at all. Any of these events could have a material adverse effect on our business, prospects, financial condition and results of operations.

Our clinical trials may fail to demonstrate substantial evidence of the safety and effectiveness of product candidates that we may identify and pursue for their intended uses, which would prevent, delay or limit the scope of regulatory approval and potential commercialization.

Before obtaining regulatory approvals for the commercial sale of any of our drug or biological product candidates, we must demonstrate through lengthy, complex and expensive preclinical studies and clinical trials that the applicable product candidate is both safe and effective for use in each target indication, and in the case of our Wholly Owned and Founded Entities' product candidates regulated as biological products, that the product candidate is safe, pure, and potent for use in its targeted indication. Each product candidate must demonstrate an adequate risk versus benefit profile in its intended patient population and for its intended use. Similarly, before obtaining regulatory clearances or approvals for the commercial sale of any of the device product candidates of our Founded Entities, our Founded Entities may be required to demonstrate through lengthy, complex and expensive preclinical studies and clinical trials that the applicable product candidate meets the regulatory standard of clearance or approval—for example, substantial equivalence or a reasonable assurance of safety or effectiveness, as applicable—for its intended use.

Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical development process. Most product candidates that begin clinical trials are never approved by regulatory authorities for commercialization. We may be unable to design and execute a clinical trial to support marketing approval.

We cannot be certain that our clinical trials will be successful. Additionally, any safety concerns observed in any one of our clinical trials in our targeted indications could limit the prospects for regulatory clearances or approval of our product candidates in those and other indications, which could have a material adverse effect on our business, financial condition and results of operations. In addition, even if such clinical trials are successfully completed, we cannot guarantee that the FDA, the EMA or comparable foreign regulatory authorities will interpret the results as we do, and more trials could be required before we submit our product candidates for clearance or approval. For example, the definition of clinical meaningfulness for outcome measures in

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lymphedema has not been firmly established by the FDA, introducing risk in evaluating and demonstrating the efficacy required to obtain FDA approval of LYT-100. As another example, while there is guidance regarding clinical meaningfulness for outcome measures in the context of acute COVID-19 treatments and potential vaccines, there is no such guidance for treatment of complications that persist following the resolution of COVID-19. Even if we believe that our and our Founded Entities' clinical trials and preclinical studies demonstrate the safety and efficacy of our and their product candidates, only the FDA and other comparable regulatory agencies may ultimately make such determination. No regulatory agency has made any such determination that any of our Wholly Owned product candidates or those of our Founded Entities, except for Plenity and EndeavorRx, are safe or effective for use by the general public for any indication.

Additionally, we may utilize an "open-label" trial design for some of our future clinical trials. An open-label trial is one where both the patient and investigator know whether the patient is receiving the test article or either an existing approved drug or placebo. Open-label trials are subject to various limitations that may exaggerate any therapeutic effect as patients in open-label studies are aware that they are receiving treatment. Open-label trials may be subject to a "patient bias" where patients perceive their symptoms to have improved merely due to their awareness of receiving an experimental treatment. Patients selected for early clinical studies often include the most severe sufferers and their symptoms may have been bound to improve notwithstanding the new treatment. In addition, open-label trials may be subject to an "investigator bias" where those assessing and reviewing the physiological outcomes of the clinical trials are aware of which patients have received treatment and may interpret the information of the treated group more favorably given this knowledge. The opportunity for bias in clinical trials as a result of open-label design may not be adequately handled and may cause any of our trials that utilize such design to fail or to be considered inadequate and additional trials may be necessary to support future marketing applications. Moreover, results acceptable to support clearance or approval in one jurisdiction may be deemed inadequate by another regulatory authority to support regulatory clearance or approval in that other jurisdiction. To the extent that the results of the trials are not satisfactory to the FDA, the EMA or comparable foreign regulatory authorities for support of a marketing application, we may be required to expend significant resources, which may not be available to us, to conduct additional trials in support of potential clearance or approval of our Wholly Owned product candidates. Even if regulatory clearance or approval is secured for a product candidate, the terms of such approval may limit the scope and use of the specific product candidate, which may also limit its commercial potential.

The results of early-stage clinical trials and preclinical studies may not be predictive of future results. Initial data in clinical trials may not be indicative of results obtained when these trials are completed or in later stage trials.

The results of preclinical studies may not be predictive of the results of clinical trials, and the results of any early-stage clinical trials we commence may not be predictive of the results of the later-stage clinical trials. The results of preclinical studies and clinical trials in one set of patients or disease indications, or from preclinical studies or clinical trials that we did not lead, may not be predictive of those obtained in another. In some instances, there can be significant variability in safety or efficacy results between different clinical trials of the same product candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the dosing regimen and other clinical trial protocols and the rate of dropout among clinical trial participants. In addition, preclinical and clinical data are often susceptible to various interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval. A number of companies in the pharmaceutical, biopharmaceutical and biotechnology industries have suffered significant setbacks in clinical development even after achieving promising results in earlier studies, and any such setbacks in our clinical development could have a material adverse effect on our business and operating results. Even if early-stage clinical trials are successful, we may need to conduct additional clinical trials of our Wholly Owned product candidates in additional patient populations or under different treatment conditions before we are able to seek approvals or clearances from the FDA, the EMA or other comparable foreign regulatory authorities to market and sell these product candidates.

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Our failure to obtain marketing authorization for our Wholly Owned product candidates would substantially harm our business, prospects, financial condition and results of operations.

If we encounter difficulties enrolling patients in clinical trials, our clinical development activities could be delayed or otherwise adversely affected.

Identifying and qualifying trial participants to participate in clinical studies is critical to our success. The timing of our clinical studies depends on the speed at which we can recruit trial participants to participate in testing our Wholly Owned product candidates. Delays in enrollment may result in increased costs or may affect the timing or outcome of the planned clinical trials, which could prevent completion of these trials and adversely affect our ability to advance the development of our Wholly Owned product candidates. If trial participants are unwilling to participate in our studies because of negative publicity from AEs in our trials or other trials of similar products, or those related to specific therapeutic area, or for other reasons, including competitive clinical studies for similar patient populations, the timeline for recruiting trial participants, conducting studies, and obtaining regulatory approval of potential products may be delayed. We also may face delays as a result of unforeseen global circumstances, for example we have experienced temporary delays in certain of our clinical development activities, including enrolling participants in certain of our clinical trials, as a result of the COVID-19 pandemic. Any delays could result in increased costs, delays in advancing our product candidate development, delays in testing the effectiveness of our Wholly Owned product candidates, or termination of the clinical studies altogether.

We may not be able to identify, recruit and enroll a sufficient number of trial participants, or those with required or desired characteristics to achieve diversity in a study, to complete our clinical studies in a timely manner. Patient and subject enrollment is affected by factors including:

- the size and nature of a patient population;
- the patient eligibility criteria defined in the applicable clinical trial protocols, which may limit the patient populations eligible for clinical trials to a greater extent than competing clinical trials for the same indication;
- the size of the study population required for analysis of the trial's primary endpoints;
- the severity of the disease under investigation;
- the proximity of patients to a trial site;
- the inclusion and exclusion criteria for the trial in question;
- the design of the trial protocol;
- the ability to recruit clinical trial investigators with the appropriate competencies and experience;
- the availability and efficacy of approved medications or therapies for the disease or condition under investigation;
- clinicians' and patients' perceptions as to the potential advantages and side effects of the product candidate being studied in relation to other available therapies and product candidates;
- the ability to obtain and maintain patient consents; and
- the risk that patients enrolled in clinical trials will not complete such trials, for any reason.

Furthermore, our or our collaborators' ability to successfully initiate, enroll and conduct a clinical trial outside the United States is subject to numerous additional risks, including:

- difficulty in establishing or managing relationships with CROs and physicians;
- differing standards for the conduct of clinical trials;
- differing standards of care for patients with a particular disease;

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- an inability to locate qualified local consultants, physicians and partners; and
- the potential burden of complying with a variety of foreign laws, medical standards and regulatory requirements, including the regulation of pharmaceutical and biotechnology products and treatments.

If we have difficulty enrolling sufficient numbers of patients to conduct clinical trials as planned, we may need to delay or terminate clinical trials, either of which would have an adverse effect on our business.

Use of our Wholly Owned product candidates or those being developed by our Founded Entities could be associated with side effects, AEs or other properties or safety risks, which could delay or halt their clinical development, prevent their regulatory clearance or approval, cause us to suspend or discontinue clinical trials, abandon a product candidate, limit their commercial potential, if cleared or approved, or result in other significant negative consequences that could severely harm our business, prospects, operating results and financial condition.

As is the case with pharmaceuticals generally, it is likely that there may be side effects and AEs associated with our and our Founded Entities' drugs or biologic product candidates' use. Similarly, investigational devices may also be subject to side effects and AEs. Results of our clinical trials or those being conducted by Founded Entities could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics. Undesirable side effects caused by these product candidates could cause us, our Founded Entities or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory clearance or approval by the FDA, the EMA or other comparable foreign regulatory authorities. The side effects related to the product candidate could affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. Any of these occurrences may harm our business, financial condition and prospects significantly.

Moreover, if our Wholly Owned product candidates are associated with undesirable side effects in preclinical studies or clinical trials or have characteristics that are unexpected, we may elect to abandon their development or limit their development to more narrow uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective, which may limit the commercial expectations for the product candidate if approved. We may also be required to modify or terminate our study plans based on findings in our preclinical studies or clinical trials. Many product candidates that initially show promise in early-stage testing may later be found to cause side effects that prevent further development. As we work to advance existing product candidates and to identify new product candidates, we cannot be certain that later testing or trials of product candidates that initially showed promise in early testing will not be found to cause similar or different unacceptable side effects that prevent their further development.

It is possible that as we test our Wholly Owned product candidates in larger, longer and more extensive clinical trials, or as the use of these product candidates becomes more widespread if they receive regulatory clearance or approval, illnesses, injuries, discomforts and other AEs that were observed in earlier trials, as well as conditions that did not occur or went undetected in previous trials, will be reported by subjects. If such side effects become known later in development or upon approval, if any, such findings may harm our business, financial condition and prospects significantly.

Additionally, adverse developments in clinical trials of pharmaceutical, biopharmaceutical or biotechnology products conducted by others may cause the FDA or other regulatory oversight bodies to suspend or terminate our clinical trials or to change the requirements for approval of any of our Wholly Owned product candidates.

In addition to side effects caused by the product candidate, the administration process or related procedures also can cause adverse side effects. If any such AEs occur, our clinical trials could be suspended or terminated. If we are unable to demonstrate that any AEs were caused by the administration process or related procedures, the FDA, the European Commission, the EMA, or other regulatory authorities could order us to cease further

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development of, or deny clearance or approval of, a product candidate for any or all targeted indications. Even if we can demonstrate that all future serious adverse events, or SAEs, are not product-related, such occurrences could affect patient recruitment or the ability of enrolled patients to complete the trial. Moreover, if we elect, or are required, to not initiate, delay, suspend or terminate any future clinical trial of any of our Wholly Owned product candidates, the commercial prospects of such product candidates may be harmed and our ability to generate product revenues from any of these product candidates may be delayed or eliminated. Any of these occurrences may harm our ability to develop other product candidates, and may harm our business, financial condition and prospects significantly.

Additionally, if any of our Wholly Owned product candidates receives marketing authorization, the FDA could impose contraindications or a boxed warning in the labeling of our product. For any of our drug or biologic product candidates receiving marketing authorization, the FDA could require us to adopt a risk evaluation and mitigation strategy, or REMS, and could apply elements to assure safe use to ensure that the benefits of the product outweigh its risks, which may include, among other things, a Medication Guide outlining the risks of the product for distribution to patients and a communication plan to health care practitioners. Furthermore, if we or others later identify undesirable side effects caused by our Wholly Owned product candidates once approved, several potentially significant negative consequences could result, including:

- regulatory authorities may suspend or withdraw approvals of such product candidate, or seek an injunction against its manufacture or distribution;
- regulatory authorities may require additional warnings on the label, including “boxed” warnings, or issue safety alerts, Dear Healthcare Provider letters, press releases or other communications containing warnings or other safety information about the product;
- we may be required by the FDA to implement a REMS for a marketed drug or biologic;
- we may be required to change the way a product candidate is administered or conduct additional clinical trials;
- we may be subject to fines, injunctions or the imposition of civil or criminal penalties;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

Any of these occurrences could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved, and may harm our business, financial condition and prospects significantly.

Even if we complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time-consuming and uncertain and may prevent us from obtaining approvals for the potential commercialization of product candidates.

Any product candidate we may develop and the activities associated with their development and potential commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, are subject to comprehensive regulation by the FDA, the EMA and other comparable foreign regulatory authorities. Failure to obtain marketing authorization for a product candidate will prevent us from commercializing the product candidate in a given jurisdiction. For example, although Gelesis and Akili have received marketing clearance for Plenity and EndeavorRX, respectively, from the FDA, we and our Founded Entities have not received clearance or approval to market any of our or their other product candidates from regulatory authorities in any jurisdiction and it is possible that none of the other product candidates we and our Founded Entities may seek to develop in the future will ever obtain regulatory approval. We have no experience in filing and supporting the applications necessary to gain marketing authorizations and expect to rely on third-party CROs or regulatory consultants to assist us in this process. Securing regulatory clearance or approval requires the submission of extensive preclinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the

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product candidate's safety, purity, efficacy and potency. Securing regulatory clearance or approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. Any product candidates we or our Founded Entities develop may not be effective, may be only moderately effective, or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing clearance or approval or prevent or limit commercial use, if cleared or approved.

The process of obtaining marketing authorizations, both in the United States and abroad, is expensive, may take many years if additional clinical trials are required, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. Changes in marketing authorization policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that our data are insufficient for approval and require additional preclinical, clinical or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit, or prevent marketing approval of a product candidate. Any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable.

If we experience delays in obtaining clearance or approval or if we fail to obtain clearance or approval of any product candidates we may develop, the commercial prospects for those product candidates may be harmed, and our ability to generate revenues will be materially impaired.

Even if any current or future product candidate of ours receives regulatory clearance or approval, it may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success, in which case we may not generate significant revenues or become profitable.

We have never commercialized a product, and even if any current or future product candidate of ours is approved by the appropriate regulatory authorities for marketing and sale, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. Physicians may be reluctant to take their patients off their current medications and switch their treatment regimen. Further, patients often acclimate to the treatment regime that they are currently taking and do not want to switch unless their physicians recommend switching products or they are required to switch due to lack of coverage and adequate reimbursement. In addition, even if we are able to demonstrate our Wholly Owned product candidates' safety and efficacy to the FDA and other regulators, safety or efficacy concerns in the medical community may hinder market acceptance.

Efforts to educate the medical community and third-party payors on the benefits of our Wholly Owned product candidates may require significant resources, including management time and financial resources, and may not be successful. The degree of market acceptance of our Wholly Owned product candidates, if approved for commercial sale, will depend on a number of factors, including:

- the efficacy and safety of the product;
- the potential advantages of the product compared to competitive therapies;
- the prevalence and severity of any side effects;
- whether the product is designated under physician treatment guidelines as a first-, second- or third-line therapy;
- our ability, or the ability of any future collaborators, to offer the product for sale at competitive prices;
- the product's convenience and ease of administration compared to alternative treatments;

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- the willingness of the target patient population to try, and of physicians to prescribe, the product;
- limitations or warnings, including distribution or use restrictions contained in the product's approved labeling;
- the strength of sales, marketing and distribution support;
- changes in the standard of care for the targeted indications for the product; and
- availability and adequacy of coverage and reimbursement from government payors, managed care plans and other third-party payors.

Sales of medical products also depend on the willingness of physicians to prescribe the treatment, which is likely to be based on a determination by these physicians that the products are safe, therapeutically effective and cost effective. In addition, the inclusion or exclusion of products from treatment guidelines established by various physician groups and the viewpoints of influential physicians can affect the willingness of other physicians to prescribe the treatment. We cannot predict whether physicians, physicians' organizations, hospitals, other healthcare providers, government agencies or private insurers will determine that our product is safe, therapeutically effective and cost effective as compared with competing treatments. If any product candidates we develop do not achieve an adequate level of acceptance, we may not generate significant product revenue, and we may not become profitable.

Any failure by any current or future product candidate of ours that obtains regulatory approval to achieve market acceptance or commercial success would adversely affect our business prospects. In addition, any negative perception of one of our Founded Entities or any product candidates marketed or commercialized by them may adversely affect our reputation in the marketplace or among industry participants and our business prospects.

We have conducted, and may continue to conduct in the future, clinical trials for product candidates outside the United States, and the FDA, the EMA and comparable foreign regulatory authorities may not accept data from such trials.

We have conducted clinical trials outside of the United States in the past, and may in the future choose to conduct one or more clinical trials outside the United States, including in Europe. For example, we have conducted clinical trials for LYT-100 in Australia and currently plan to conduct future clinical trials for LYT-100 in additional locations outside the United States, including without limitation Australia, Romania, Spain and the Phillipines. The acceptance of study data from clinical trials conducted outside the United States or another jurisdiction by the FDA, the EMA or any comparable foreign regulatory authority may be subject to certain conditions or may not be accepted at all. In cases where data from foreign clinical trials are intended to serve as the basis for marketing approval in the United States, the FDA will generally not approve the application on the basis of foreign data alone unless (i) the data are applicable to the U.S. population and U.S. medical practice; (ii) the trials were performed by clinical investigators of recognized competence and pursuant to GCP regulations; and (iii) if necessary, the FDA is able to validate the data through an on-site inspection or other appropriate means. Additionally, the FDA's clinical trial requirements, including sufficient size of patient populations and statistical powering, must be met. Many foreign regulatory authorities have similar approval requirements. In addition, such foreign trials would be subject to the applicable local laws of the foreign jurisdictions where the trials are conducted. There can be no assurance that the FDA, the EMA or any comparable foreign regulatory authority will accept data from trials conducted outside of the United States or the applicable jurisdiction. If the FDA, the EMA or any comparable foreign regulatory authority does not accept such data, it would result in the need for additional trials, which would be costly and time-consuming and delay aspects of our business plan, and which may result in product candidates that we may develop not receiving approval or clearance for commercialization in the applicable jurisdiction.

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If we are unable to obtain regulatory clearance or approval in one or more jurisdictions for any product candidates that we may identify and develop, our business could be substantially harmed.

We cannot commercialize a product until the appropriate regulatory authorities have reviewed and cleared or approved the product candidate. Approval by the FDA, the EMA and comparable foreign regulatory authorities is lengthy and unpredictable, and depends upon numerous factors, including substantial discretion of the regulatory authorities. Approval policies, regulations, or the type and amount of preclinical or clinical data necessary to gain approval may change during the course of a product candidate's development and may vary among jurisdictions, which may cause delays in the approval or the decision not to approve an application. Gelesis and Akili have obtained marketing clearance from the FDA for Plenity and EndeavorRx, respectively, but we and our Founded Entities have not obtained regulatory clearance or approval for any other product candidates, and it is possible that our current product candidates and any other product candidates which we and our Founded Entities may seek to develop in the future will not ever obtain regulatory clearance or approval. We cannot be certain that any of our Wholly Owned or our Founded Entities' product candidates will receive regulatory clearance or approval or be successfully commercialized even if we or our Founded Entities receive regulatory clearance or approval.

Obtaining marketing approval is an extensive, lengthy, expensive and inherently uncertain process, and regulatory authorities may delay, limit or deny clearance or approval of our Wholly Owned or our Founded Entities' product candidates for many reasons, including but not limited to:

- the inability to demonstrate to the satisfaction of the FDA, the EMA or comparable foreign regulatory authorities that the applicable product candidate is safe and effective as a treatment for our targeted indications or otherwise meets the applicable regulatory standards for approval;
- the FDA, the EMA or comparable foreign regulatory authorities may disagree with the design, endpoints or implementation of our or our Founded Entities' clinical trials;
- the population studied in the clinical program may not be sufficiently broad or representative to assure safety or efficacy in the full population for which we or our Founded Entities seek approval;
- the FDA, the EMA or comparable foreign regulatory authorities may require additional preclinical studies or clinical trials beyond those that we or our Founded Entities currently anticipate;
- the FDA, the EMA or comparable foreign regulatory authorities may disagree with our or our Founded Entities' interpretation of data from preclinical studies or clinical trials;
- the data collected from clinical trials of product candidates that we may identify and pursue may not be sufficient to support the submission of an NDA, biologics license application, or BLA, or other submission for regulatory approval in the United States or elsewhere;
- as applicable, we or our Founded Entities may be unable to demonstrate to the FDA, the EMA or comparable foreign regulatory authorities that a product candidate's risk-benefit ratio for its proposed indication is acceptable;
- the FDA, the EMA or comparable foreign regulatory authorities may identify deficiencies in the manufacturing processes, test procedures and specifications, or facilities of third-party manufacturers with which we or our Founded Entities contract for clinical and commercial supplies; and
- the clearance or approval policies or regulations of the FDA, the EMA or comparable foreign regulatory authorities may change in a manner that renders the clinical trial design or data insufficient for clearance or approval.

The lengthy approval process, as well as the unpredictability of the results of clinical trials and evolving regulatory requirements, may result in our or our Founded Entities' failure to obtain regulatory approval to market product candidates that we or our Founded Entities may pursue in the United States or elsewhere, which would significantly harm our or our Founded Entities' business, prospects, financial condition and results of operations.

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Furthermore, clearance or approval by the FDA in the United States, if obtained, does not ensure approval by regulatory authorities in other countries or jurisdictions. In order to market any products outside of the United States, we or our Founded Entities must establish and comply with numerous and varying regulatory requirements of other countries regarding safety and effectiveness. Clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not mean that regulatory approval will be obtained in any other country. Approval processes vary among countries and can involve additional product testing and validation and additional or different administrative review periods from those in the United States, including additional preclinical studies or clinical trials, as clinical trials conducted in one jurisdiction may not be accepted by regulatory authorities in other jurisdictions. In many jurisdictions outside the United States, a product candidate must be approved for reimbursement before it can be approved for sale in that jurisdiction. In some cases, the price that we intend to charge for our products is also subject to approval. Seeking foreign regulatory approval could result in difficulties and costs for us or our Founded Entities and require additional preclinical studies or clinical trials which could be costly and time-consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of our or our Founded Entities' products in those countries. The foreign regulatory approval process involves all of the risks associated with FDA approval. We do not have any product candidates approved for sale in international markets. If we or our Founded Entities fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, or if regulatory approvals in international markets are delayed, our target market will be reduced and our ability to realize the full market potential of our products will be harmed.

Interim, "top-line," and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available or as additional analyses are conducted, and as the data are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publish interim, "top-line," or preliminary data from our clinical studies. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Preliminary or "top-line" data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, interim and preliminary data should be viewed with caution until the final data are available. Material adverse changes between preliminary, "top-line," or interim data and final data could significantly harm our business prospects.

Further, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product and our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is the material or otherwise appropriate information to include in our disclosure. Any information we determine not to disclose may ultimately be deemed significant by you or others with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product candidate or our business.

Certain of the product candidates being developed by us or our Founded Entities are novel, complex and difficult to manufacture. We could experience manufacturing problems that result in delays in our development or commercialization programs or otherwise harm our business.

The manufacturing processes our CMOs use to produce our and our Founded Entities' product candidates are complex and in certain cases novel. Several factors could cause production interruptions, including inability to develop novel manufacturing processes, equipment malfunctions, facility contamination, raw material shortages or contamination, natural disasters, disruption in utility services, human error or disruptions in the operations of our suppliers, including acquisition of the supplier by a third party or declaration of bankruptcy. For example,

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Vedanta has its own proprietary GMP manufacturing facilities for certain product candidates, including VE303, VE800 and VE416. Creating defined consortia of live microbial therapeutics for these product candidates is inherently complex, and therefore can be vulnerable to delays. The expertise required to manufacture these product candidates is unique to Vedanta, and as a result, it would be difficult and time consuming to find an alternative CMO. In addition, manufacturing of clinical supply for LYT-100, LYT-200, and LYT-300 are dependent on third party CMOs, and manufacturing such product candidates is inherently complex. As another example, we are advancing LYT-100 for potential treatment of complications that persist following the resolution of COVID-19 infection. COVID-19 has been widespread, and any approved treatments related to COVID-19 could face issues manufacturing sufficient quantities to meet demand.

Some of our and our Founded Entities' product candidates include biologics, some of which have physical and chemical properties that cannot be fully characterized. As a result, assays of the finished product may not be sufficient to ensure that the product is consistent from lot-to-lot or will perform in the intended manner. Accordingly, our CMOs must employ multiple steps to control the manufacturing process to assure that the process is reproducible and the product candidate is made strictly and consistently in compliance with the process. Problems with the manufacturing process, even minor deviations from the normal process, could result in product defects or manufacturing failures that result in lot failures, product recalls, product liability claims or insufficient inventory to conduct clinical trials or supply commercial markets. We or our Founded Entities may encounter problems achieving adequate quantities and quality of clinical-grade materials that meet the FDA, the EMA or other applicable standards or specifications with consistent and acceptable production yields and costs.

In addition, the FDA, the EMA and other foreign regulatory authorities may require us or our Founded Entities to submit samples of any lot of any approved product together with the protocols showing the results of applicable tests at any time. Under some circumstances, the FDA, the EMA or other foreign regulatory authorities may require that we or our Founded Entities not distribute a lot until the agency authorizes its release. Slight deviations in the manufacturing process, including those affecting quality attributes and stability, may result in unacceptable changes in the product that could result in lot failures or product recalls. Lot failures or product recalls could cause us or our Founded Entities to delay product launches or clinical trials, which could be costly to us and otherwise harm our business, financial condition, results of operations and prospects.

Our CMOs also may encounter problems hiring and retaining the experienced scientific, quality assurance, quality-control and manufacturing personnel needed to operate our manufacturing processes, which could result in delays in production or difficulties in maintaining compliance with applicable regulatory requirements.

Any problems in our CMOs' manufacturing process or facilities could result in delays in planned clinical trials and increased costs, and could make us a less attractive collaborator for potential partners, including larger biotechnology companies and academic research institutions, which could limit access to additional attractive development programs. Problems in our manufacturing process could restrict our ability to meet potential future market demand for products.

We do not currently have nor do we plan to acquire the infrastructure or capability internally to manufacture our clinical drug supplies for use in the conduct of our clinical trials, and we lack the resources and the capability to manufacture our wholly-owned product candidates on a clinical or commercial scale. Instead, we rely on our third-party manufacturing partners for the production of the active pharmaceutical ingredient, or API, and drug formulation. The facilities used by our third-party manufacturers to manufacture our product candidates that we may develop must be successfully inspected by the applicable regulatory authorities, including the FDA, after we submit our NDA to the FDA.

We are currently completely dependent on our third-party manufacturers for the production of LYT-100 and LYT-200 in accordance with cGMPs, which include, among other things, quality control, quality assurance and the maintenance of records and documentation.

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Although we have entered into agreements for the manufacture of clinical supplies of LYT-100 and LYT-200, our third-party manufacturers may not perform as agreed, may be unable to comply with these cGMP requirements and with FDA, state and foreign regulatory requirements or may terminate its agreement with us. If any of our third-party manufacturers cannot successfully manufacture material that conforms to our specifications and the applicable regulatory authorities' strict regulatory requirements, or pass regulatory inspection, our NDA will not be approved. In addition, although we are ultimately responsible for ensuring product quality, we have no direct day-to-day control over our third-party manufacturers' ability to maintain adequate quality control, quality assurance and qualified personnel. If our third-party manufacturers are unable to satisfy the regulatory requirements for the manufacture of our products, or if our suppliers or third-party manufacturers decide they no longer want to manufacture our products, we may need to find alternative manufacturing facilities, which would be time-consuming and significantly impact our ability to develop, obtain regulatory approval for or market our products. We might be unable to identify manufacturers for long-term clinical and commercial supply on acceptable terms or at all. Manufacturers are subject to ongoing periodic announced and unannounced inspection by the FDA and other governmental authorities to ensure compliance with government regulations. Currently, our contract manufacturer for the API for LYT-100 is located outside the United States and the FDA has recently increased the number of foreign drug manufacturers that it inspects as well as the frequency of such inspections. As a result, our third-party manufacturers may be subject to increased scrutiny.

If we were to experience an unexpected loss of supply for clinical development or commercialization, we could experience delays in our ongoing or planned clinical trials as our third-party manufacturers would need to manufacture additional quantities of our clinical and commercial supply and we may not be able to provide sufficient lead time to enable our third-party manufacturers to schedule a manufacturing slot, or to produce the necessary replacement quantities. This could result in delays in progressing our clinical development activities and achieving regulatory approval for our products, which could materially harm our business.

The manufacture of pharmaceutical products is complex and requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. We and our contract manufacturers must comply with cGMP regulations and guidelines. Manufacturers of pharmaceutical products often encounter difficulties in production, particularly in scaling up and validating initial production. These problems include difficulties with production costs and yields, quality control, including stability of the product, quality assurance testing, operator error, shortages of qualified personnel, as well as compliance with strictly enforced federal, state and foreign regulations. Furthermore, if microbial, viral or other contaminations are discovered in our products or in the manufacturing facilities in which our products are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination. We cannot assure you that any stability or other issues relating to the manufacture of any of our products will not occur in the future. Additionally, our manufacturers may experience manufacturing difficulties due to resource constraints or as a result of labor disputes or unstable political environments. If our manufacturers were to encounter any of these difficulties, or otherwise fail to comply with their contractual obligations, our ability to provide any product candidates to patients in clinical trials would be jeopardized. Any delay or interruption in the supply of clinical trial supplies could delay the completion of clinical trials, increase the costs associated with maintaining clinical trial programs and, depending upon the period of delay, require us to commence new clinical trials at additional expense or terminate clinical trials completely.

Any adverse developments affecting clinical or commercial manufacturing of our products may result in shipment delays, inventory shortages, lot failures, product withdrawals or recalls, or other interruptions in the supply of our products or product candidates. We may also have to take inventory write-offs and incur other charges and expenses for products or product candidates that fail to meet specifications, undertake costly remediation efforts or seek more costly manufacturing alternatives. Accordingly, failures or difficulties faced at any level of our supply chain could materially adversely affect our business and delay or impede the development and commercialization of any of our products or product candidates and could have a material adverse effect on our business, prospects, financial condition and results of operations.

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The complexity of a combination product that includes a drug or biologic and a medical device presents additional, unique development and regulatory challenges, which may adversely impact our or our Founded Entities' development plans and our or our Founded Entities' ability to obtain regulatory approval of our Wholly Owned or our Founded Entities' product candidates.

We or our Founded Entities, such as Follica, may decide to pursue marketing authorization of a combination product. A combination product includes, amongst other possibilities, any investigational drug, device, or biologic packaged separately that according to its proposed labeling is for use only with another individually specified investigational drug, device, or biologic where both are required to achieve the intended use, indication, or effect.

Developing and obtaining regulatory approval for combination products pose unique challenges because they involve components that are regulated under different types of regulatory requirements, and by different FDA centers. As a result, such products raise regulatory, policy and review management challenges. For example, because divisions from both FDA's Center for Drug Evaluation and Research or Center for Biologics Evaluation and Research and FDA's Center for Devices and Radiological Health must review submissions concerning product candidates that are combination products comprised of drug or biologics and devices, the regulatory review and approval process for these products may be lengthened. In addition, differences in regulatory pathways for each component of a combination product can impact the regulatory processes for all aspects of product development and management, including clinical investigation, marketing applications, manufacturing and quality control, adverse event reporting, promotion and advertising, user fees and post-approval modifications. Similarly, the device components of our Founded Entities' product candidates will require any necessary clearances or approvals or other marketing authorizations in other jurisdictions, which may prove challenging to obtain.

Certain modifications to our Founded Entities' device products may require new 510(k) clearance or other marketing authorizations and may require our Founded Entities to recall or cease marketing their products.

Gelesis received marketing clearance for Plenity from the FDA. Once a medical device is permitted to be legally marketed in the United States pursuant to a 510(k) clearance, *de novo* classification, or a premarket approval, or PMA, a manufacturer may be required to notify the FDA of certain modifications to the device. Manufacturers determine in the first instance whether a change to a product requires a new premarket submission, but the FDA may review any manufacturer's decision. The FDA may not agree with our Founded Entities' decisions regarding whether new clearances or approvals are necessary. They may make modifications or add additional features in the future that they believe do not require a new 510(k) clearance, *de novo* classification, or approval of a PMA or PMA amendments or supplements. If the FDA disagrees with their determinations and requires them to submit new 510(k) notifications, requests for *de novo* classification, or PMAs (or PMA supplements or amendments) for modifications to their previously cleared or reclassified products for which they have concluded that new clearances or approvals are unnecessary, they may be required to cease marketing or to recall the modified product until they obtain clearance or approval, and they may be subject to significant regulatory fines or penalties.

The regulatory landscape that will apply to development of therapeutic product candidates by us or our Founded Entities or collaborators is rigorous, complex, uncertain and subject to change, which could result in delays or termination of development of such product candidates or unexpected costs in obtaining regulatory approvals.

We or our Founded Entities or collaborators may develop product candidates that use genome or cell editing technologies. Regulatory requirements governing products created with genome editing technology or involving gene therapy treatment have changed frequently and will likely continue to change in the future. Approvals by one regulatory agency may not be indicative of what any other regulatory agency may require for approval, and there is substantial, and sometimes uncoordinated, overlap in those responsible for regulation of gene therapy

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products, cell therapy products and other products created with genome editing technology. For example, the FDA established the Office of Tissues and Advanced Therapies within its Center for Biologics Evaluation and Research, or CBER, to consolidate the review of gene therapy and related products, and the Cellular, Tissue and Gene Therapies Advisory Committee to advise CBER on its review. These and other regulatory review agencies, committees and advisory groups and the requirements and guidelines they promulgate may lengthen the regulatory review process, require us or our Founded Entities to perform additional preclinical studies or clinical trials, increase our or our Founded Entities' development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of these treatment candidates or lead to significant post-approval limitations or restrictions.

Additionally, under the National Institutes of Health, or NIH, Guidelines for Research Involving Recombinant DNA Molecules, or NIH Guidelines, supervision of human gene transfer trials includes evaluation and assessment by an institutional biosafety committee, or IBC, a local institutional committee that reviews and oversees research utilizing recombinant or synthetic nucleic acid molecules at that institution. The IBC assesses the safety of the research and identifies any potential risk to public health or the environment, and such review may result in some delay before initiation of a clinical trial. While the NIH Guidelines are not mandatory unless the research in question is being conducted at or sponsored by institutions receiving NIH funding of recombinant or synthetic nucleic acid molecule research, many companies and other institutions not otherwise subject to the NIH Guidelines voluntarily follow them.

In the European Union, the EMA has a Committee for Advanced Therapies, or CAT, that is responsible for assessing the quality, safety and efficacy of advanced therapy medicinal products. Advanced-therapy medical products include gene therapy medicine, somatic-cell therapy medicines and tissue-engineered medicines. The role of the CAT is to prepare a draft opinion on an application for marketing authorization for a gene therapy medicinal candidate that is submitted to the EMA. In the European Union, the development and evaluation of a gene therapy medicinal product must be considered in the context of the relevant European Union guidelines. The EMA may issue new guidelines concerning the development and marketing authorization for gene therapy medicinal products and require that we or our Founded Entities comply with these new guidelines. Similarly complex regulatory environments exist in other jurisdictions in which we or our Founded Entities might consider seeking regulatory approvals for our Wholly Owned or our Founded Entities' product candidates, further complicating the regulatory landscape. As a result, the procedures and standards applied to gene therapy products and cell therapy products may be applied to any of our or our Founded Entities' gene therapy or genome editing product candidates, but that remains uncertain at this point.

Changes in applicable regulatory guidelines may lengthen the regulatory review process for our Wholly Owned or our Founded Entities' product candidates, require additional studies or trials, increase development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of such product candidates, or lead to significant post-approval limitations or restrictions. Additionally, adverse developments in clinical trials conducted by others of gene therapy products or products created using genome editing technology, or adverse public perception of the field of genome editing, may cause the FDA, the EMA and other regulatory bodies to revise the requirements for approval of any product candidates we or our Founded Entities may develop or limit the use of products utilizing genome editing technologies, either of which could materially harm our or our Founded Entities' business. Furthermore, regulatory action or private litigation could result in expenses, delays or other impediments to our research programs or the development or commercialization of current or future product candidates.

As we advance product candidates alone or with collaborators, we will be required to consult with these regulatory and advisory groups and comply with all applicable guidelines, rules and regulations. If we fail to do so, we or our collaborators may be required to delay or terminate development of such product candidates. Delay or failure to obtain, or unexpected costs in obtaining, the regulatory approval necessary to bring a product candidate to market could decrease our ability to generate sufficient product revenue to maintain our business.

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We may not elect or be able to take advantage of any expedited development or regulatory review and approval processes available to drug product candidates granted breakthrough therapy or fast track designation by the FDA.

We intend to evaluate and continue ongoing discussions with the FDA on regulatory strategies that could enable us or our Founded Entities to take advantage of expedited development pathways for certain of our Wholly Owned or our Founded Entities' product candidates in the future, although we cannot be certain that our Wholly Owned or our Founded Entities' product candidates will qualify for any expedited development pathways or that regulatory authorities will grant, or allow us or our Founded Entities to maintain, the relevant qualifying designations. Potential expedited development pathways that we could pursue include breakthrough therapy and fast track designation.

Breakthrough therapy designation is intended to expedite the development and review of drug product candidates that are designed to treat serious or life-threatening diseases when preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The designation of a product candidate as a breakthrough therapy provides potential benefits that include more frequent meetings with FDA to discuss the development plan for the product candidate and ensure collection of appropriate data needed to support approval; more frequent written correspondence from FDA about such things as the design of the proposed clinical trials and use of biomarkers; intensive guidance on an efficient drug development program, beginning as early as Phase 1; organizational commitment involving senior managers; and eligibility for rolling review and priority review.

Fast track designation is designed for drug product candidates intended for the treatment of a serious or life-threatening disease or condition, where preclinical or clinical data demonstrate the potential to address an unmet medical need for this disease or condition. Accordingly, even if we believe a particular product candidate is eligible for breakthrough therapy or fast track designation, we cannot assure you that the FDA would decide to grant it. Breakthrough therapy designation and fast track designation do not change the standards for product approval, and there is no assurance that such designation or eligibility will result in expedited review or approval or that the approved indication will not be narrower than the indication covered by the breakthrough therapy designation or fast track designation. Thus, even if we or our Founded Entities do receive breakthrough therapy or fast track designation, we or our Founded Entities may not experience a faster development process, review or approval compared to conventional FDA procedures. The FDA may withdraw breakthrough therapy or fast track designation if it believes that the product no longer meets the qualifying criteria. Our business may be harmed if we are unable to avail ourselves of these or any other expedited development and regulatory pathways.

If we or our Founded Entities are unable to successfully validate, develop and obtain regulatory approval for companion diagnostic tests for any future drug candidates that require or would commercially benefit from such tests, or experience significant delays in doing so, we or our Founded Entities may not realize the full commercial potential of these drug candidates.

In connection with the clinical development of our Wholly Owned or Founded Entities' product candidates for certain indications, we or our Founded Entities may work with collaborators to develop or obtain access to *in vitro* companion diagnostic tests to identify patient subsets within a disease category who may derive selective and meaningful benefit from our drug candidates. For example, we may elect to develop companion diagnostics for LYT-200 and LYT-210. To be successful, we, our Founded Entities or our collaborators will need to address a number of scientific, technical, regulatory and logistical challenges. The FDA, the EMA and comparable foreign regulatory authorities regulate *in vitro* companion diagnostics as medical devices and, under that regulatory framework, will likely require the conduct of clinical trials to demonstrate the safety and effectiveness of any diagnostics we or our Founded Entities may develop, which we expect will require separate regulatory clearance or approval prior to commercialization.

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We or our Founded Entities may rely on third parties for the design, development and manufacture of companion diagnostic tests for our Wholly Owned or our Founded Entities' product candidates that may require such tests. If we or our Founded Entities enter into such collaborative agreements, we will be dependent on the sustained cooperation and effort of our future collaborators in developing and obtaining approval for these companion diagnostics. It may be necessary to resolve issues such as selectivity/specificity, analytical validation, reproducibility, or clinical validation of companion diagnostics during the development and regulatory approval processes. Moreover, even if data from preclinical studies and early clinical trials appear to support development of a companion diagnostic for a product candidate, data generated in later clinical trials may fail to support the analytical and clinical validation of the companion diagnostic. We, our Founded Entities and our future collaborators may encounter difficulties in developing, obtaining regulatory approval for, manufacturing and commercializing companion diagnostics similar to those we face with respect to our Wholly Owned product candidates themselves, including issues with achieving regulatory clearance or approval, production of sufficient quantities at commercial scale and with appropriate quality standards, and in gaining market acceptance. If we or our Founded Entities are unable to successfully develop companion diagnostics for these product candidates, or experience delays in doing so, the development of these product candidates may be adversely affected, these product candidates may not obtain marketing approval, and we may not realize the full commercial potential of any of these product candidates that obtain marketing approval. As a result, our business, results of operations and financial condition could be materially harmed. In addition, a diagnostic company with whom we or our Founded Entities contract may decide to discontinue selling or manufacturing the companion diagnostic test that we anticipate using in connection with development and commercialization of our Wholly Owned or our Founded Entities' product candidates or our relationship with such diagnostic company may otherwise terminate. We or our Founded Entities may not be able to enter into arrangements with another diagnostic company to obtain supplies of an alternative diagnostic test for use in connection with the development and commercialization of our Wholly Owned or our Founded Entities' product candidates or do so on commercially reasonable terms, which could adversely affect and/or delay the development or commercialization of our or our Founded Entities' therapeutic candidates.

For any approved product, we or our Founded Entities will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and we or our Founded Entities may be subject to penalties if we or our Founded Entities fail to comply with regulatory requirements or experience unanticipated problems with our Wholly Owned or our Founded Entities' product candidates.

Gelesis' Plenity and Akili's EndeavorRx are, and any of our Wholly Owned or our Founded Entities' product candidates that are cleared or approved will be, subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, conduct of post-marketing studies, and submission of safety, efficacy and other post-market information, including both federal and state requirements in the United States and requirements of comparable foreign regulatory authorities.

Manufacturers and manufacturers' facilities are required to comply with extensive requirements imposed by the FDA, the EMA and other comparable foreign regulatory authorities, including ensuring that quality control and manufacturing procedures conform to current good manufacturing practices, or cGMP, regulations. As such, we and our CMOs are subject to continual review and inspections to assess compliance with cGMP and adherence to commitments made in any marketing clearance, such as for Plenity, and any future 510(k), premarket approval, or PMA, application, NDA, BLA or marketing authorization application, or MAA, or equivalent application. We and our CMOs are also subject to requirements pertaining to the registration of our manufacturing facilities and the listing of our product and product candidates with the FDA; continued complaint, adverse event and malfunction reporting; corrections and removals reporting; and labeling and promotional requirements. Accordingly, we and others with whom we work must continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, production and quality control. Gelesis' and Akili's marketing clearance for Plenity and EndeavorRx, respectively, are and any regulatory clearances or approvals that we may receive for our Wholly Owned or our Founded Entities' product candidates will be, subject to limitations on the cleared or approved indicated uses for which the product may be marketed and promoted or to the conditions of

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approval. Any regulatory clearances or approvals that we may receive for our Wholly Owned product candidates may contain requirements for potentially costly post-marketing testing, such as Phase 4 clinical trials and surveillance to monitor the safety and efficacy of a drug product. We are required to report certain adverse reactions and production problems, if any, to the FDA, the EMA and other comparable foreign regulatory authorities. Any new legislation addressing drug or medical safety issues could result in delays in product development or commercialization, or increased costs to assure compliance.

The FDA and other agencies, including the U.S. Department of Justice, and for certain products, the Federal Trade Commission, closely regulate and monitor the post-approval marketing, labeling, advertising and promotion of products to ensure that they are manufactured, marketed and distributed only for the cleared or approved indications and in accordance with the provisions of the approved label. We are, and will be, required to comply with requirements concerning advertising and promotion for our Wholly Owned product candidates, if approved. For example, promotional communications with respect to prescription drugs and medical devices are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the product's label or labeling. We may not promote our products for indications or uses for which they do not have approval or clearance.

The holder of a cleared 510(k) or an approved NDA, BLA, PMA, MAA or equivalent marketing authorization must submit new or supplemental applications and obtain approval for certain changes to the approved product, product labeling, or manufacturing process. For example, any modification to Plenity that would significantly affect its safety or effectiveness or that would constitute a major change in its intended use would require a new 510(k) clearance or approval of PMA application. Delays in obtaining required clearances or approvals would harm our ability to introduce new or enhanced product in a timely manner, which in turn would harm our or our Founded Entities' future growth. Failure to submit a new or supplemental application and to obtain approval for certain changes prior to marketing the modified product may require a recall or to stop selling or distributing the marketed product as modified, and may lead to significant enforcement actions.

In the European Economic Area, or the EEA, any medical devices will need to comply with the Essential Requirements set forth in Medical Device Regulation. Compliance with these requirements is a prerequisite to be able to affix the CE mark to a product, without which a product cannot be marketed or sold in the EEA. To demonstrate compliance with the Essential Requirements and obtain the right to affix the CE mark, we or our Founded Entities must undergo a conformity assessment procedure, which varies according to the type of medical device and its classification. The conformity assessment procedure requires the intervention of a Notified Body, which is an organization designated by a competent authority of an EEA country to conduct conformity assessments. The Notified Body issues a CE Certificate of Conformity following successful completion of a conformity assessment procedure and quality management system audit conducted in relation to the medical device and its manufacturer and their conformity with the Essential Requirements. This Certificate entitles the manufacturer to affix the CE mark to its medical products after having prepared and signed a related EC Declaration of Conformity. In June 2020, Gelesis received a CE Mark for Plenity as a class III medical device indicated for weight loss in overweight and obese adults with a Body Mass Index of 25-40 kg/m², when used in conjunction with diet and exercise. Also in June 2020, Akili received a CE Mark for EndeavorRx as a prescription-only digital therapeutic software intended for the treatment of attention and inhibitory control deficits in paediatric patients with ADHD.

We or our Founded Entities could also be required to conduct post-marketing clinical trials to verify the safety and efficacy of our or our Founded Entities' products in general or in specific patient subsets. If original marketing approval of a drug or biologic was obtained via an accelerated approval pathway, we or our Founded Entities could be required to conduct a successful post-marketing clinical trial to confirm clinical benefit for our or our Founded Entities' products. An unsuccessful post-marketing study or failure to complete such a study could result in the withdrawal of marketing approval.

If a regulatory agency discovers previously unknown problems with a product, such as AEs of unanticipated severity or frequency, or problems with the facility where the product is manufactured, or disagrees with the

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promotion, marketing or labeling of a product, such regulatory agency may impose restrictions on that product or us, including requiring withdrawal of the product from the market. If we or our Founded Entities fail to comply with applicable regulatory requirements, a regulatory agency or enforcement authority may, among other things:

- issue warning letters that would result in adverse publicity;
- impose civil or criminal penalties;
- suspend or withdraw regulatory approvals;
- suspend any of our or our Founded Entities' ongoing clinical trials;
- refuse to approve pending applications or supplements to approved applications submitted by us or our Founded Entities;
- impose restrictions on our operations, including closing our CMOs' facilities;
- seize or detain products; or
- require a product recall.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response, and could generate negative publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to commercialize and generate revenue from our products. If regulatory sanctions are applied or if regulatory clearance or approval is withdrawn, the value of our company and our operating results will be adversely affected.

The FDA's and other regulatory authorities' policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory clearance or approval of our Wholly Owned or our Founded Entities' product candidates. For example, following new guidance from the FDA recognizing the need for access to certain low-risk clinically-validated digital health devices for psychiatric conditions during the COVID-19 pandemic, in April 2020 Akili announced that EndeavorRx (AKL-T01) would be available for use by children with ADHD and their families

We also cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. For example, certain policies of the Trump administration may impact our business and industry. Namely, the Trump administration has taken several executive actions, including the issuance of a number of Executive Orders, that could impose significant burdens on, or otherwise materially delay, the FDA's ability to engage in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance and review and approval of marketing applications. If these executive actions impose constraints on the FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

The FDA and other regulatory agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses.

If, for any of our Wholly Owned product candidates that are cleared or approved, we are found to have improperly promoted off-label uses of those products, we may become subject to significant liability. The FDA and other regulatory agencies strictly regulate the promotional claims that may be made about prescription products, if approved. In particular, while the FDA permits the dissemination of truthful and non-misleading information about an approved product, a manufacturer may not promote a product for uses that are not approved by the FDA or such other regulatory agencies as reflected in the product's approved labeling. If we are found to have promoted such off-label uses, we may become subject to significant liability. The federal government has levied large civil and criminal fines against companies for alleged improper promotion of off-label use and has enjoined several companies from engaging in off-label promotion. The FDA has also requested that companies enter into consent decrees, corporate integrity agreements or permanent injunctions under which specified

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promotional conduct must be changed or curtailed. If we cannot successfully manage the promotion of our Wholly Owned product candidates, if approved, we could become subject to significant liability, which would materially adversely affect our business and financial condition.

Our or our Founded Entities' products must be manufactured in accordance with federal, state and international regulations, and we or our Founded Entities could be forced to recall our or our Founded Entities' medical devices or terminate production if we or our Founded Entities fail to comply with these regulations.

The methods used in, and the facilities used for, the manufacture of medical device products of our Founded Entities, including Gelesis, Akili, Follica and Sonde, must comply with the FDA's cGMPs for medical devices, known as Quality System Regulation, or QSR, which is a complex regulatory scheme that covers the procedures and documentation of, among other requirements, the design, testing, validation, verification, complaint handling, production, process controls, quality assurance, labeling, supplier evaluation, packaging, handling, storage, distribution, installation, servicing and shipping of medical devices. Furthermore, we and our Founded Entities are required to verify that our suppliers maintain facilities, procedures and operations that comply with our quality standards and applicable regulatory requirements. The FDA enforces the QSR through, among other oversight methods, periodic announced or unannounced inspections of medical device manufacturing facilities, which may include the facilities of subcontractors, suppliers or CMOs. Our and our Founded Entities' products are also subject to similar state regulations and various laws and regulations of foreign countries governing manufacturing.

Our or our Founded Entities' third-party manufacturers may not take the necessary steps to comply with applicable regulations or our or our Founded Entities' specifications, which could cause delays in the delivery of our products. In addition, failure to comply with applicable FDA requirements or later discovery of previously unknown problems with our or our Founded Entities' products or manufacturing processes could result in, among other things: warning letters or untitled letters; customer civil penalties; suspension or withdrawal of approvals or clearances; seizures or recalls of our or our Founded Entities' products; total or partial suspension of production or distribution; administrative or judicially imposed sanctions; the FDA's refusal to grant pending or future clearances or approvals for our or our Founded Entities' products; clinical holds; refusal to permit the import or export of our or our Founded Entities' products; and criminal prosecution of us or our employees. Any of these actions could significantly and negatively impact supply of our or our Founded Entities' products. If any of these events occurs, our reputation could be harmed, we could be exposed to product liability claims and we or our Founded Entities could lose customers and suffer reduced revenue and increased costs.

Risks Related to Commercialization

If, in the future, we are unable to establish sales and marketing capabilities or enter into agreements with third parties to sell and market any product candidates we may develop, we may not be successful in commercializing those product candidates if and when they are approved.

We do not have a sales or marketing infrastructure or the capabilities for sale, marketing, or distribution of pharmaceutical products. To achieve commercial success for any approved product for which we retain sales and marketing responsibilities, we must either develop a sales and marketing organization or outsource these functions to third parties. In the future, we may choose to build a focused sales, marketing, and commercial support infrastructure to market and sell our Wholly Owned product candidates, if and when they are approved. We may also elect to enter into collaborations or strategic partnerships with third parties to engage in commercialization activities with respect to selected product candidates, indications or geographic territories, including territories outside the United States, although there is no guarantee we will be able to enter into these arrangements even if the intent is to do so.

There are risks involved with both establishing our own commercial capabilities and entering into arrangements with third parties to perform these services. For example, recruiting and training a sales force or reimbursement

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specialists is expensive and time consuming and could delay any product launch. If the commercial launch of a product candidate for which we recruit a sales force and establish marketing and other commercialization capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses. This may be costly, and our investment would be lost if we cannot retain or reposition commercialization personnel.

Factors that may inhibit our efforts to commercialize any approved product on our own include:

- the inability to recruit and retain adequate numbers of effective sales, marketing, reimbursement, customer service, medical affairs, and other support personnel;
- the inability of sales personnel to obtain access to physicians or persuade adequate numbers of physicians to prescribe any future approved products;
- the inability of reimbursement professionals to negotiate arrangements for formulary access, reimbursement, and other acceptance by payors;
- the inability to price products at a sufficient price point to ensure an adequate and attractive level of profitability;
- restricted or closed distribution channels that make it difficult to distribute our products to segments of the patient population;
- the lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines; and
- unforeseen costs and expenses associated with creating an independent commercialization organization.

If we enter into arrangements with third parties to perform sales, marketing, commercial support, and distribution services, our product revenue or the profitability of product revenue may be lower than if we were to market and sell any products we may develop internally. In addition, we may not be successful in entering into arrangements with third parties to commercialize our Wholly Owned product candidates or may be unable to do so on terms that are favorable to us or them. We may have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our products effectively or may expose us to legal and regulatory risk by not adhering to regulatory requirements and restrictions governing the sale and promotion of prescription drug products, including those restricting off-label promotion. If we do not establish commercialization capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our Wholly Owned product candidates, if approved.

The insurance coverage and reimbursement status of newly-approved products is uncertain. Our Wholly Owned product candidates may become subject to unfavorable pricing regulations, third-party coverage and reimbursement practices, or healthcare reform initiatives, which would harm our business. Failure to obtain or maintain coverage and adequate reimbursement for new or current products could limit our ability to market those products and decrease our ability to generate revenue.

The regulations that govern marketing approvals, pricing, coverage, and reimbursement for new drugs and other medical products vary widely from country to country. In the United States, healthcare reform legislation may significantly change the approval requirements in ways that could involve additional costs and cause delays in obtaining approvals. Some countries require approval of the sale price of a product before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenue we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more products or product candidates, even if any product candidates we may develop obtain marketing approval.

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Our ability to successfully commercialize our products and product candidates also will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers, and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. The availability of coverage and extent of reimbursement by governmental and private payors is essential for most patients to be able to afford treatments such as gene therapy products. Sales of these or other product candidates that we may identify will depend substantially, both domestically and abroad, on the extent to which the costs of our Wholly Owned product candidates will be paid by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or reimbursed by government health administration authorities, private health coverage insurers and other third-party payors. If coverage and adequate reimbursement is not available, or is available only to limited levels, we may not be able to successfully commercialize our products or product candidates. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us to establish or maintain pricing sufficient to realize a sufficient return on our investment. A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. In many countries, the prices of medical products are subject to varying price control mechanisms as part of national health systems. In general, the prices of medicines under such systems are substantially lower than in the United States. Other countries allow companies to fix their own prices for medicines, but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our Wholly Owned product candidates. Accordingly, in markets outside the United States, the reimbursement for products may be reduced compared with the United States and may be insufficient to generate commercially reasonable revenues and profits.

There is also significant uncertainty related to the insurance coverage and reimbursement of newly approved products and coverage may be more limited than the purposes for which the medicine is approved by the FDA or comparable foreign regulatory authorities. In the United States, the principal decisions about reimbursement for new medicines are typically made by the Centers for Medicare & Medicaid Services, or CMS, an agency within the U.S. Department of Health and Human Services. CMS decides whether and to what extent a new medicine will be covered and reimbursed under Medicare and private payors tend to follow CMS to a substantial degree. No uniform policy of coverage and reimbursement for products exists among third-party payors and coverage and reimbursement levels for products can differ significantly from payor to payor. As a result, the coverage determination process is often a time consuming and costly process that may require us to provide scientific and clinical support for the use of our products to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. It is difficult to predict what CMS will decide with respect to reimbursement for fundamentally novel products such as ours, as there is no body of established practices and precedents for these new products. Reimbursement agencies in Europe may be more conservative than CMS. For example, a number of cancer drugs have been approved for reimbursement in the United States and have not been approved for reimbursement in certain European countries. Moreover, eligibility for reimbursement does not imply that any drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale, and distribution. Interim reimbursement levels for new drugs, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. Our inability to promptly obtain coverage and profitable payment rates from both government-funded and private payors for any approved products we may develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize product candidates, and our overall financial condition. Further, due to the COVID-19 pandemic, millions of individuals have lost/will be losing employer-based insurance coverage, which may adversely affect our ability to commercialize our products. As noted above, in the United States, we plan to have various programs to help patients afford our products, including patient assistance programs and co-pay coupon programs for eligible patients.

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Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Our inability to promptly obtain coverage and profitable reimbursement rates third-party payors for any approved products that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

Increasingly, third-party payors are requiring that pharmaceutical companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. We cannot be sure that reimbursement will be available for any product candidate that we commercialize and, if reimbursement is available, the level of reimbursement. Reimbursement may impact the demand for, or the price of, any product or product candidate for which we obtain marketing approval. In order to obtain reimbursement, physicians may need to show that patients have superior treatment outcomes with our products compared to standard of care drugs, including lower-priced generic versions of standard of care drugs. We expect to experience pricing pressures in connection with the sale of any of our Wholly Owned product candidates, due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative changes. The downward pressure on healthcare costs in general, particularly prescription drugs and surgical procedures and other treatments, has become very intense. As a result, increasingly high barriers are being erected to the entry of new products. Additionally, we may develop companion diagnostic tests for use with our Wholly Owned or our Founded Entities' product candidates. We, or our Founded Entities or our collaborators may be required to obtain coverage and reimbursement for these tests separate and apart from the coverage and reimbursement we seek for our Wholly Owned or our Founded Entities' product candidates, once approved. Even if we or our Founded Entities obtain regulatory approval or clearance for such companion diagnostics, there is significant uncertainty regarding our ability to obtain coverage and adequate reimbursement for the same reasons applicable to our Wholly Owned or our Founded Entities' product candidates. Medicare reimbursement methodologies, whether under Part A, Part B, or clinical laboratory fee schedule may be amended from time to time, and we cannot predict what effect any change to these methodologies would have on any product candidate or companion diagnostic for which we receive approval.

If we fail to comply with healthcare laws, we could face substantial penalties and our business, operations and financial conditions could be adversely affected.

Healthcare providers, physicians and third-party payors in the United States and elsewhere play a primary role in the recommendation and prescription of pharmaceutical products. Arrangements with healthcare providers, third-party payors and customers can expose pharmaceutical manufacturers to broadly applicable fraud and abuse and other healthcare laws and regulations, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act, or the FCA, which may constrain the business or financial arrangements and relationships through which such companies sell, market and distribute pharmaceutical products. In particular, the promotion, sales and marketing of healthcare items and services, as well as certain business arrangements in the healthcare industry, are subject to extensive laws designed to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of ownership, pricing, discounting, marketing and promotion, structuring and commission(s), certain customer incentive programs and other business arrangements generally. Activities subject to these laws also involve the improper use of information obtained in the course of patient recruitment for clinical trials. The applicable federal and state healthcare laws and regulations laws that may affect our ability to operate include, but are not limited to:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce, or in return for, either the referral of an individual, or the purchase, lease, order or recommendation of any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs. A person or entity does not need to have actual

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knowledge of the statute or specific intent to violate it in order to have committed a violation. Violations are subject to civil and criminal fines and penalties for each violation, plus up to three times the remuneration involved, imprisonment of up to ten years, and exclusion from government healthcare programs. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the FCA. The Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers, on the one hand, and prescribers, purchasers and formulary managers, on the other. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution;

- federal civil and criminal false claims laws and civil monetary penalty laws, including the False Claims Act, which impose criminal and civil penalties, including through civil “qui tam” or “whistleblower” actions, against individuals or entities for, among other things, knowingly presenting, or causing to be presented, claims for payment or approval from Medicare, Medicaid, or other federal health care programs that are false or fraudulent; knowingly making or causing a false statement material to a false or fraudulent claim or an obligation to pay money to the federal government; or knowingly concealing or knowingly and improperly avoiding or decreasing such an obligation. Manufacturers can be held liable under the FCA even when they do not submit claims directly to government payors if they are deemed to “cause” the submission of false or fraudulent claims. The FCA also permits a private individual acting as a “whistleblower” to bring actions on behalf of the federal government alleging violations of the FCA and to share in any monetary recovery. When an entity is determined to have violated the federal civil False Claims Act, the government may impose civil fines and penalties for each false claim, plus treble damages, and exclude the entity from participation in Medicare, Medicaid and other federal healthcare programs;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created additional federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g., public or private) and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity can be found guilty of violating HIPAA without actual knowledge of the statute or specific intent to violate it;
- the federal civil monetary penalties laws, which impose civil fines for, among other things, the offering or transfer or remuneration to a Medicare or state healthcare program beneficiary if the person knows or should know it is likely to influence the beneficiary’s selection of a particular provider, practitioner, or supplier of services reimbursable by Medicare or a state healthcare program, unless an exception applies;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, which impose, among other things, requirements on certain covered healthcare providers, health plans, and healthcare clearinghouses as well as their respective business associates that perform services for them that involve the use, or disclosure of, individually identifiable health information, relating to the privacy, security and transmission of individually identifiable health information without appropriate authorization. HITECH also created new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys’ fees and costs associated with pursuing federal civil actions;
- the federal Physician Payments Sunshine Act, created under the ACA, and its implementing regulations, which require manufacturers of drugs, devices, biologicals and medical supplies for which

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payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to the U.S. Department of Health and Human Services, or HHS, under the Open Payments Program, information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Effective January 1, 2022, these reporting obligations will extend to include transfers of value made to certain non-physician providers such as physician assistants and nurse practitioners;

- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;
- federal price reporting laws, which require manufacturers to calculate and report complex pricing metrics to government programs, where such reported prices may be used in the calculation of reimbursement and/or discounts on approved products; and
- analogous state and foreign laws and regulations, such as state and foreign anti-kickback, false claims, consumer protection and unfair competition laws which may apply to pharmaceutical business practices, including but not limited to, research, distribution, sales and marketing arrangements as well as submitting claims involving healthcare items or services reimbursed by any third-party payer, including commercial insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government that otherwise restricts payments that may be made to healthcare providers and other potential referral sources; state laws that require drug manufacturers to file reports with states regarding pricing and marketing information, such as the tracking and reporting of gifts, compensations and other remuneration and items of value provided to healthcare professionals and entities; state and local laws requiring the registration of pharmaceutical sales representatives; and state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and are often not pre-empted by HIPAA, thus complicating compliance efforts.

Because of the breadth of these laws and the narrowness of the statutory exceptions and regulatory safe harbors available, it is possible that some of our business activities, including compensation of physicians with stock or stock options, could, despite efforts to comply, be subject to challenge under one or more of such laws. Additionally, FDA or foreign regulators may not agree that we have mitigated any risk of bias in our clinical trials due to payments or equity interests provided to investigators or institutions which could limit a regulator's acceptance of those clinical trial data in support of a marketing application. Moreover, efforts to ensure that our business arrangements will comply with applicable healthcare laws may involve substantial costs. It is possible that governmental and enforcement authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law interpreting applicable fraud and abuse or other healthcare laws and regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant civil, criminal and administrative penalties, damages, disgorgement, monetary fines, exclusion from participation in Medicare, Medicaid and other federal healthcare programs, integrity and oversight agreements to resolve allegations of non-compliance, contractual damages, reputational harm, diminished profits and future earnings, and curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. In addition, the approval and commercialization of any of our Wholly Owned product candidates outside the United States will also likely subject us to foreign equivalents of the healthcare laws mentioned above, among other foreign laws.

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Failure to comply with health and data protection laws and regulations could lead to government enforcement actions (which could include civil or criminal penalties), private litigation, and/or adverse publicity and could negatively affect our operating results and business.

We and any potential collaborators may be subject to federal, state, and foreign data protection laws and regulations (i.e., laws and regulations that address privacy and data security). In the United States, numerous federal and state laws and regulations, including federal health information privacy laws, state data breach notification laws, state health information privacy laws, and federal and state consumer protection laws (e.g., Section 5 of the Federal Trade Commission Act), that govern the collection, use, disclosure and protection of health-related and other personal information could apply to our operations or the operations of our collaborators. In addition, we may obtain health information from third parties (including research institutions from which we obtain clinical trial data) that are subject to privacy and security requirements under HIPAA, as amended by HITECH. Depending on the facts and circumstances, we could be subject to civil, criminal, and administrative penalties if we knowingly obtain, use, or disclose individually identifiable health information maintained by a HIPAA-covered entity in a manner that is not authorized or permitted by HIPAA.

Compliance with U.S. and international data protection laws and regulations, including the General Data Protection Regulation 2016/679, or GDPR, in the European Union, could require us to take on more onerous obligations in our contracts, restrict our ability to collect, use and disclose data, or in some cases, impact our ability to operate in certain jurisdictions. Failure to comply with these laws and regulations could result in government enforcement actions (which could include civil, criminal and administrative penalties), private litigation, and/or adverse publicity and could negatively affect our operating results and business. Moreover, clinical trial subjects, employees and other individuals about whom we or our potential collaborators obtain personal information, as well as the providers who share this information with us, may limit our ability to collect, use and disclose the information. Claims that we have violated individuals' privacy rights, failed to comply with data protection laws, or breached our contractual obligations, even if we are not found liable, could be expensive and time-consuming to defend and could result in adverse publicity that could harm our business.

Healthcare legislative measures aimed at reducing healthcare costs may have a material adverse effect on our business and results of operations.

The United States and many foreign jurisdictions have enacted or proposed legislative and regulatory changes affecting the healthcare system that could prevent or delay marketing approval of our Wholly Owned or our Founded Entities' product candidates or any future product candidates, restrict or regulate post-approval activities and affect our or our Founded Entities' ability to profitably sell any product for which we or our Founded Entities obtain marketing approval. Changes in regulations, statutes or the interpretation of existing regulations could impact our or our Founded Entities' business in the future by requiring, for example: (i) changes to our manufacturing arrangements; (ii) additions or modifications to product labeling; (iii) the recall or discontinuation of our products; or (iv) additional record-keeping requirements. If any such changes were to be imposed, they could adversely affect the operation of our business.

In the United States, there have been and continue to be a number of legislative initiatives and judicial challenges to contain healthcare costs. For example, in March 2010, the ACA was passed, which substantially changed the way healthcare is financed by both governmental and private insurers, and significantly impacted the U.S. pharmaceutical industry. The ACA, among other things, subjects biological products to potential competition by lower-cost biosimilars, addresses a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected, increases the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extends the rebate program to individuals enrolled in Medicaid managed care organizations, establishes annual fees and taxes on manufacturers of certain branded prescription drugs, and creates a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50 percent (increased to 70% as of 2019 pursuant to subsequent legislation) point-of-sale discounts off negotiated prices of applicable brand drugs to

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eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D.

Payment methodologies may be subject to changes in healthcare legislation and regulatory challenges. For example, in order for a drug product to receive federal reimbursement under the Medicaid or Medicare Part B programs or to be sold directly to U.S. government agencies, the manufacturer must extend discounts to entities eligible to participate in the 340B drug pricing program. For the 2018 and 2019 fiscal years, CMS altered the reimbursement formula from Average Sale Price (ASP) plus 6 percent to ASP minus 22.5 percent on specified covered outpatient drugs ("SCODs"), but did so without issuing a formal notice of proposed rulemaking. On December 27, 2018, the District Court for the District of Columbia invalidated that formula change, ruling the change was not an "adjustment" which was within the Secretary's discretion to make, but was instead a fundamental change in the reimbursement calculation, and such a dramatic change was beyond the scope of the Secretary's authority. On July 31, 2020, the Court of Appeals for the District of Columbia reversed the District Court's decision, stating that HHS's decision to lower drug reimbursement rates for 340B hospitals rests on a reasonable interpretation of the Medicare statute.

Since its enactment, there have been numerous judicial, administrative, executive, and legislative challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. The Tax Cuts and Jobs Act of 2017, or the Tax Act, includes a provision that repealed effective January 1, 2019 the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." On December 14, 2018, a U.S. District Court Judge in the Northern District of Texas, or the Texas District Court Judge, ruled that the individual mandate is a critical and inseparable feature of the ACA, and therefore, because it was repealed as part of the Tax Act, the remaining provisions of the ACA are invalid as well. The Trump Administration and CMS have both stated that the ruling will have no immediate effect, and on December 30, 2018 the Texas District Court Judge issued an order staying the judgment pending appeal. On December 18, 2019, the U.S. Court of Appeals for the 5th Circuit ruled that the individual mandate was unconstitutional but remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. On March 2, 2020, the U.S. Supreme Court granted the petitions for writs of certiorari to review the case, although it is unclear when a decision will be made or how the Supreme Court will rule. Litigation and legislation over the ACA are likely to continue, with unpredictable and uncertain results. We will continue to evaluate the effect that the ACA and its possible repeal and replacement has on our business. According to the Congressional Budget Office, the repeal of the individual mandate will cause 13 million fewer Americans to be insured in 2027 and premiums in insurance markets may rise.

Since January 2017, President Trump has signed various Executive Orders designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. On January 20, 2017, President Trump signed an Executive Order directing federal agencies with authorities and responsibilities under the ACA to waive, defer, grant exemptions from, or delay the implementation of any provision of the ACA that would impose a fiscal burden on states or a cost, fee, tax, penalty or regulatory burden on individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. On October 13, 2017, President Trump signed an Executive Order terminating the cost-sharing subsidies that reimburse insurers under the ACA. The Trump administration has concluded that cost-sharing reduction, or CSR, payments to insurance companies required under the ACA have not received necessary appropriations from Congress and announced that it will discontinue these payments immediately until those appropriations are made. The loss of the CSR payments is expected to increase premiums on certain policies issued by qualified health plans under the ACA. Several state Attorneys General filed suit to stop the administration from terminating the subsidies, but their request for a restraining order was denied by a federal judge in California on October 25, 2017. On June 14, 2018, U.S. Court of Appeals for the Federal Circuit ruled that the federal government was not required to pay more than \$12 billion in ACA risk corridor payments to third-party payors who argued were owed to them. This decision was appealed to the U.S. Supreme Court, which on April 27, 2020, reversed the U.S. Court of Appeals for the Federal Circuit's decision.

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and remanded the case to the U.S. Court of Federal Claims, concluding the government has an obligation to pay these risk corridor payments under the relevant formula. The U.S. federal government has since started sending third-party payors owed payments. It is not clear what effect this result will have on our business, but we will continue to monitor any developments.

Moreover, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain ACA-mandated fees, including the so called “Cadillac” tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. However, on December 20, 2019, the U.S. President signed into law the Further Consolidated Appropriations Act (H.R. 1865), which repeals the Cadillac tax, the health insurance provider tax, and the medical device excise tax. The Bipartisan Budget Act of 2018, also amended the ACA, effective January 1, 2019, by increasing the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and closing the coverage gap in most Medicare drug plans, commonly referred to as the “donut hole.” In December 2018, CMS issued a final rule permitting further collections and payments to and from certain ACA qualified health plans and health insurance issuers under the ACA risk adjustment program. Since then, the ACA risk adjustment program payment parameters have been updated annually. In addition, CMS published a final rule on April 25, 2019 that gave states greater flexibility, starting in 2020, in setting benchmarks for insurers in the individual and small group marketplaces, which may have the effect of relaxing the essential health benefits required under the ACA for plans sold through such marketplaces.

In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted. In August 2011, the Budget Control Act of 2011, among other things, resulted in aggregate reductions of Medicare payments to providers of 2 percent per fiscal year, which went into effect in 2013, and, due to subsequent legislative amendments, will remain in effect through 2030 unless additional Congressional action is taken. However, pursuant to the Coronavirus Aid, Relief and Economic Security Act, or CARES Act, these Medicare sequester reductions will be suspended from May 1, 2020 through December 31, 2020 due to the COVID-19 pandemic. The American Taxpayer Relief Act of 2012 further reduced Medicare payments to several types of providers, including hospitals and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

There has been increasing legislative and enforcement interest in the United States with respect to drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. At the federal level, the Trump administration’s budget for fiscal year 2021 includes a \$135 billion allowance to support legislative proposals seeking to reduce drug prices, increase competition, lower out-of-pocket drug costs for patients, and increase patient access to lower-cost generic and biosimilar drugs. On March 10, 2020, the Trump administration sent “principles” for drug pricing to Congress, calling for legislation that would, among other things, cap Medicare Part D beneficiary out-of-pocket pharmacy expenses, provide an option to cap Medicare Part D beneficiary monthly out-of-pocket expenses, and place limits on pharmaceutical price increases. Additionally, the Trump administration released a “Blueprint” to lower drug prices and reduce out of pocket costs of drugs that contains additional proposals to increase manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products and reduce the out of pocket costs of drug products paid by consumers. The U.S. Department of HHS, has already started the process of soliciting feedback on some of these measures and, at the same time, is immediately implementing others under its existing authority. For example, in May 2019, CMS issued a final rule to allow Medicare Advantage Plans the option of using step therapy for Part B drugs beginning January 1, 2020. This final rule codified CMS’s policy change that was effective January 1, 2019.

In addition, on May 30, 2018, the Right to Try Act was signed into law. The law, among other things, provides a federal framework for certain patients to access certain investigational new drug products that have completed a

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Phase 1 clinical trial and that are undergoing investigation for FDA approval. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA permission under the FDA expanded access program. There is no obligation for a drug manufacturer to make its drug products available to eligible patients as a result of the Right to Try Act, but the manufacturer must develop an internal policy and respond to patient requests according to that policy.

Lastly, on July 24, 2020, President Trump signed four Executive Orders aimed at lowering drug prices. The Executive Orders direct the Secretary of the Department of Health and Human Services to: (1) eliminate protection under an Anti-Kickback Statute safe harbor for certain retrospective price reductions provided by drug manufacturers to sponsors of Medicare Part D plans or pharmacy benefit managers that are not applied at the point-of-sale; (2) allow the importation of certain drugs from other countries through individual waivers, permit the re-importation of insulin products, and prioritize finalization of FDA's December 2019 proposed rule to permit the importation of drugs from Canada; (3) ensure that payment by the Medicare program for certain Medicare Part B drugs is not higher than the payment by other comparable countries (depending on whether pharmaceutical manufacturers agree to other measures); and (4) allow certain low-income individuals receiving insulin and epinephrine purchased by a Federally Qualified Health Center, or FQHC, as part of the 340B drug program to purchase those drugs at the discounted price paid by the FQHC. On September 13, 2020, President Trump signed an Executive Order directing HHS to implement a rulemaking plan to test a payment model, pursuant to which Medicare would pay, for certain high-cost prescription drugs and biological products covered by Medicare Part B, no more than the most-favored-nation price (i.e., the lowest price) after adjustments, for a pharmaceutical product that the drug manufacturer sells in a member country of the Organization for Economic Cooperation and Development that has a comparable per-capita gross domestic product. Although a number of these, and other proposed measures will require authorization through additional legislation to become effective, Congress and the current administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs.

At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. Furthermore, there has been increased interest by third-party payors and governmental authorities in reference pricing systems and publication of discounts and list prices.

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal and state levels directed at containing or lowering the cost of healthcare. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability, or commercialize our product. Such reforms could have an adverse effect on anticipated revenue from product candidates that we may successfully develop and for which we may obtain regulatory approval and may affect our overall financial condition and ability to develop product candidates. We cannot predict the initiatives that may be adopted in the future. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare and/or impose price controls may adversely affect:

- the demand for our Wholly Owned or our Founded Entities' product candidates, if approved;
- our ability to receive or set a price that we believe is fair for our products;
- our ability to generate revenue and achieve or maintain profitability;
- the amount of taxes that we are required to pay; and
- the availability of capital.

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We expect that the ACA, as well as other healthcare reform measures that may be adopted in the future, may result in additional reductions in Medicare and other healthcare funding, more rigorous coverage criteria, lower reimbursement, and new payment methodologies. This could lower the price that we receive for any approved product. Any denial in coverage or reduction in reimbursement from Medicare or other government-funded programs may result in a similar denial or reduction in payments from private payors, which may prevent us from being able to generate sufficient revenue, attain profitability or commercialize our Wholly Owned or our Founded Entities' product candidates, if approved. Litigation and legislative efforts to change or repeal the ACA are likely to continue, with unpredictable and uncertain results.

We face significant competition in an environment of rapid technological and scientific change, and there is a possibility that our competitors may achieve regulatory approval before us or develop therapies that are safer, more advanced or more effective than ours, which may negatively impact our ability to successfully market or commercialize any product candidates we may develop and ultimately harm our financial condition.

The development and commercialization of new drug products is highly competitive. We may face competition with respect to any product candidates that we seek to develop or commercialize in the future from major pharmaceutical companies, specialty pharmaceutical companies, and biotechnology companies worldwide. Potential competitors also include academic institutions, government agencies, and other public and private research organizations that conduct research, seek patent protection, and establish collaborative arrangements for research, development, manufacturing, and commercialization.

There are a number of major pharmaceutical and biotechnology companies that are currently pursuing the development and commercialization of potential medicines targeting the Brain-Immune-Gut. If any of our competitors receive FDA approval before we do, our Wholly Owned product candidates would not be the first treatment on the market, and our market share may be limited. In addition to competition from other companies targeting our target indications, any products we may develop may also face competition from other types of therapies.

Many of our current or potential competitors, either alone or with their strategic partners, have:

- greater financial, technical, and human resources than we have at every stage of the discovery, development, manufacture, and commercialization of products;
- more extensive resources for preclinical testing, conducting clinical trials, obtaining regulatory approvals, and in manufacturing, marketing, and selling drug products;
- products that have been approved or are in late stages of development; and
- collaborative arrangements in our target markets with leading companies and research institutions.

Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient, or are less expensive than any products that we may develop. Furthermore, currently approved products could be discovered to have application for treatment of our targeted disease indications or similar indications, which could give such products significant regulatory and market timing advantages over our Wholly Owned product candidates. Our competitors may also obtain FDA, EMA or other comparable foreign regulatory approval for their products more rapidly than we may obtain approval for ours and may obtain orphan product exclusivity from the FDA for indications that we are targeting, which could result in our competitors establishing a strong market position before we are able to enter the

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market. Additionally, products or technologies developed by our competitors may render our potential product candidates uneconomical or obsolete and we may not be successful in marketing any product candidates we may develop against competitors.

In addition, we could face litigation or other proceedings with respect to the scope, ownership, validity and/or enforceability of our patents relating to our competitors' products and our competitors may allege that our products infringe, misappropriate or otherwise violate their intellectual property. The availability of our competitors' products could limit the demand, and the price we are able to charge, for any products that we may develop and commercialize.

Our Wholly Owned or our Founded Entities' product candidates for which we or our Founded Entities intend to seek approval as biologic products may face competition sooner than anticipated.

If we or our Founded Entities are successful in achieving regulatory approval to commercialize any biologic product candidate we or our Founded Entities develop alone or with collaborators, it may face competition from biosimilar products. In the United States, certain of our Wholly Owned and our Founded Entities' product candidates are regulated by the FDA as biologic products subject to approval under the BLA pathway. The Biologics Price Competition and Innovation Act of 2009, or BPCIA, created an abbreviated pathway for the approval of biosimilar and interchangeable biologic products following the approval of an original BLA. The abbreviated regulatory pathway establishes legal authority for the FDA to review and approve biosimilar biologics, including the possible designation of a biosimilar as "interchangeable" based on its similarity to an existing brand product. Under the BPCIA, an application for a biosimilar product may not be submitted until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years after the reference product was first licensed by the FDA. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing the sponsor's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of their product. The law is complex and is still being interpreted and implemented by the FDA. As a result, its ultimate impact, implementation, and meaning are subject to uncertainty. While it is uncertain when such processes intended to implement BPCIA may be fully adopted by the FDA, any such processes could have a material adverse effect on the future commercial prospects for biological product candidates.

We believe that any of our Wholly Owned or our Founded Entities' product candidates that are approved as a biological product under a BLA should qualify for the 12-year period of exclusivity. However, there is a risk that this exclusivity could be shortened due to congressional action or otherwise, or that the FDA will not consider such product candidates to be reference products for competing products, potentially creating the opportunity for generic competition sooner than anticipated. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. Moreover, the extent to which a biosimilar product, once approved, will be substituted for any one of our, our Founded Entities' or our collaborators' reference products in a way that is similar to traditional generic substitution for non-biologic products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing. If competitors are able to obtain marketing approval for biosimilars referencing any products that we or our Founded Entities develop alone or with collaborators that may be approved, such products may become subject to competition from such biosimilars, with the attendant competitive pressure and potential adverse consequences.

Risks Related to Reliance on Third Parties

We are currently party to and may seek to enter into additional collaborations, licenses and other similar arrangements and may not be successful in maintaining existing arrangements or entering into new ones, and even if we are, we may not realize the benefits of such relationships.

We are currently parties to license and collaboration agreements with a number of universities and pharmaceutical companies and expect to enter into additional agreements as part of our business strategy. The

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success of our current and any future collaboration arrangements will depend heavily on the efforts and activities of our collaborators. Collaborations are subject to numerous risks, which may include risks that:

- collaborators may have significant discretion in determining the efforts and resources that they will apply to collaborations;
- collaborators may not pursue development and commercialization of our Wholly Owned product candidates or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in their strategic focus due to their acquisition of competitive products or their internal development of competitive products, availability of funding or other external factors, such as a business combination that diverts resources or creates competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial, abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates;
- a collaborator with marketing, manufacturing and distribution rights to one or more products may not commit sufficient resources to or otherwise not perform satisfactorily in carrying out these activities;
- we could grant exclusive rights to our collaborators that would prevent us from collaborating with others;
- collaborators may not properly maintain or defend our intellectual property rights or may use our intellectual property or proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential liability;
- disputes may arise between us and a collaborator that cause the delay or termination of the research, development or commercialization of our current or future product candidates or that results in costly litigation or arbitration that diverts management attention and resources;
- collaborations may be terminated, which may result in a need for additional capital to pursue further development or commercialization of the applicable current or future product candidates;
- collaborators may own or co-own intellectual property covering products that result from our collaboration with them, and in such cases, we would not have the exclusive right to develop or commercialize such intellectual property;
- disputes may arise with respect to the ownership of any intellectual property developed pursuant to our collaborations; and
- a collaborator's sales and marketing activities or other operations may not be in compliance with applicable laws resulting in civil or criminal proceedings.

Additionally, we may seek to enter into additional collaborations, joint ventures, licenses and other similar arrangements for the development or commercialization of our Wholly Owned product candidates, due to capital costs required to develop or commercialize the product candidate or manufacturing constraints. We may not be successful in our efforts to establish such collaborations for our Wholly Owned product candidates because our research and development pipeline may be insufficient, our Wholly Owned product candidates may be deemed to be at too early of a stage of development for collaborative effort or third parties may not view our Wholly Owned product candidates as having the requisite potential to demonstrate safety and efficacy or significant commercial opportunity. In addition, we face significant competition in seeking appropriate strategic partners, and the negotiation process can be time consuming and complex. Further, any future collaboration agreements may restrict us from entering into additional agreements with potential collaborators. We cannot be certain that, following a strategic transaction or license, we will achieve an economic benefit that justifies such transaction.

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Even if we are successful in our efforts to establish such collaborations, the terms that we agree upon may not be favorable to us, and we may not be able to maintain such collaborations if, for example, development or approval of a product candidate is delayed, the safety of a product candidate is questioned or sales of an approved product candidate are unsatisfactory.

In addition, any potential future collaborations may be terminable by our strategic partners, and we may not be able to adequately protect our rights under these agreements. Furthermore, strategic partners may negotiate for certain rights to control decisions regarding the development and commercialization of our Wholly Owned product candidates, if approved, and may not conduct those activities in the same manner as we do. Any termination of collaborations we enter into in the future, or any delay in entering into collaborations related to our Wholly Owned product candidates, could delay the development and commercialization of our Wholly Owned product candidates and reduce their competitiveness if they reach the market, which could have a material adverse effect on our business, financial condition and results of operations.

Collaborative relationships with third parties could cause us to expend significant resources and give rise to substantial business risk with no assurance of financial return.

We anticipate relying upon strategic collaborations for marketing and commercializing our existing product candidates, and we may rely even more on strategic collaborations for R&D of other product candidates or discoveries. We may sell product offerings through strategic partnerships with pharmaceutical and biotechnology companies. If we are unable to establish or manage such strategic collaborations on terms favorable to us in the future, our R&D efforts and potential to generate revenue may be limited.

If we enter into R&D collaborations during the early phases of product development, success will in part depend on the performance of research collaborators. We will not directly control the amount or timing of resources devoted by research collaborators to activities related to product candidates. Research collaborators may not commit sufficient resources to our R&D programs. If any research collaborator fails to commit sufficient resources, the preclinical or clinical development programs related to the collaboration could be delayed or terminated. Also, collaborators may pursue existing or other development-stage products or alternative technologies in preference to those being developed in collaboration with us. Finally, if we fail to make required milestone or royalty payments to collaborators or to observe other obligations in agreements with them, the collaborators may have the right to terminate or stop performance of those agreements.

Establishing strategic collaborations is difficult and time-consuming. Our discussions with potential collaborators may not lead to the establishment of collaborations on favorable terms, if at all. Potential collaborators may reject collaborations based upon their assessment of our financial, regulatory or intellectual property position. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators. Even if we successfully establish new collaborations, these relationships may never result in the successful development or commercialization of product candidates or the generation of sales revenue. To the extent that we enter into collaborative arrangements, the related product revenues are likely to be lower than if we directly marketed and sold products. Such collaborators may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for any future product candidate.

Management of our relationships with collaborators will require:

- significant time and effort from our management team;
- coordination of our marketing and R&D programs with the marketing and R&D priorities of our collaborators; and
- effective allocation of our resources to multiple projects.

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We rely on third parties to assist in conducting our clinical trials and some aspects of our research and preclinical testing, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials, research, or testing.

We currently rely and expect to continue to rely on third parties, such as CROs, clinical data management organizations, medical institutions, and clinical investigators, to conduct some aspects of research and preclinical testing and clinical trials. Any of these third parties may terminate their engagements with us or be unable to fulfill their contractual obligations. If any of our relationships with these third parties terminate, we may not be able to enter into arrangements with alternative third parties on commercially reasonable terms, or at all. If we need to enter into alternative arrangements, it would delay product development activities.

Further, although our reliance on these third parties for clinical development activities limits our control over these activities, we remain responsible for ensuring that each of our trials is conducted in accordance with the applicable protocol, legal and regulatory requirements and scientific standards. For example, notwithstanding the obligations of a CRO for a trial of one of our Wholly Owned product candidates, we remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA requires us to comply with requirements, commonly referred to as Good Clinical Practices, or GCPs, for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. The FDA enforces these GCPs through periodic inspections of trial sponsors, principal investigators, clinical trial sites and IRBs. If we or our third-party contractors fail to comply with applicable GCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA may require us to perform additional clinical trials before approving our Wholly Owned product candidates, which would delay the regulatory approval process. We cannot be certain that, upon inspection, the FDA will determine that any of our clinical trials comply with GCPs. We are also required to register certain clinical trials and post the results of completed clinical trials on a government-sponsored database, ClinicalTrials.gov, within certain timeframes. NIH and FDA recently signaled the government's willingness to begin enforcing those requirements against non-compliant clinical trial sponsors. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions.

Furthermore, the third parties conducting clinical trials on our behalf are not our employees, and except for remedies available to us under our agreements with such contractors, we cannot control whether or not they devote sufficient time, skill and resources to our ongoing development programs. These contractors may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other drug or medical device development activities, which could impede their ability to devote appropriate time to our clinical programs. If these third parties, including clinical investigators, do not successfully carry out their contractual duties, meet expected deadlines or conduct our clinical trials in accordance with regulatory requirements or our stated protocols, we may not be able to obtain, or may be delayed in obtaining, regulatory approvals for our Wholly Owned product candidates. If that occurs, we will not be able to, or may be delayed in our efforts to, successfully commercialize our Wholly Owned product candidates. In such an event, our financial results and the commercial prospects for any product candidates that we seek to develop could be harmed, our costs could increase and our ability to generate revenues could be delayed, impaired or foreclosed.

Our or our Founded Entities' use of third parties to manufacture our Wholly Owned or our Founded Entities' product candidates and other product candidates that we or our Founded Entities may develop for preclinical studies and clinical trials may increase the risk that we or our Founded Entities will not have sufficient quantities of our or our Founded Entities' product candidates, products, or necessary quantities of such materials on time or at an acceptable cost.

With respect to certain of our Wholly Owned or our Founded Entities' product candidates, we and certain of our Founded Entities do not currently have, nor do we plan to acquire, the infrastructure or capability internally to

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manufacture drug supplies for our ongoing clinical trials or any future clinical trials that we or our Founded Entities may conduct, and we and our Founded Entities lack the resources to manufacture any product candidates on a commercial scale. We rely, and expect to continue to rely, on third-party manufacturers to produce our and certain of our Founded Entities' product candidates or other product candidates that we or our Founded Entities may identify for clinical trials, as well as for commercial manufacture if any product candidates receive marketing authorization. Although we and our Founded Entities generally do not begin a clinical trial unless we or our Founded Entities believe we have a sufficient supply of a product candidate to complete the trial, any significant delay or discontinuity in the supply of a product candidate, or the raw material components thereof, for an ongoing clinical trial due to the need to replace a third-party manufacturer could considerably delay the clinical development and potential regulatory authorization of our Wholly Owned or our Founded Entities' product candidates, which could harm our business and results of operations.

We or our Founded Entities may be unable to identify and appropriately qualify third-party manufacturers or establish agreements with third-party manufacturers or do so on acceptable terms. Even if we or our Founded Entities are able to establish agreements with third-party manufacturers, reliance on third-party manufacturers entails additional risks, including:

- reliance on the third party for sourcing of raw materials, components, and such other goods as may be required for execution of its manufacturing processes and the oversight by the third party of its suppliers;
- reliance on the third party for regulatory compliance and quality assurance for the manufacturing activities each performs;
- the possible breach of the manufacturing agreement by the third party;
- the possible misappropriation of proprietary information, including trade secrets and know-how; and
- the possible termination or non-renewal of the agreement by the third party at a time that is costly or inconvenient for us or our Founded Entities.

Furthermore, all of our CMOs are engaged with other companies to supply and/or manufacture materials or products for such companies, which exposes our manufacturers to regulatory risks for the production of such materials and products. The facilities used by our contract manufacturers to manufacture our drug, or medical device product candidates are subject to review by the FDA pursuant to inspections that will be conducted after we submit an NDA, BLA, PMA application or other marketing application to the FDA. We do not control the manufacturing process of, and are to some extent dependent on, our contract manufacturing partners for compliance with the regulatory requirements, known as cGMP requirements for manufacture of drug, biologic and device products. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or others, we will not be able to secure or maintain regulatory authorization for our Wholly Owned or our Founded Entities' product candidates manufactured at these manufacturing facilities. In addition, we have no control over the ability of our contract manufacturers to maintain adequate quality control, quality assurance and qualified personnel. If the FDA, the EMA or another comparable foreign regulatory agency does not approve these facilities for the manufacture of our Wholly Owned or our Founded Entities' product candidates or if any agency withdraws its approval in the future, we or our Founded Entities may need to find alternative manufacturing facilities, which would negatively impact our or our Founded Entities' ability to develop, obtain regulatory authorization for or market our Wholly Owned or our Founded Entities' product candidates, if cleared or approved.

Our Wholly Owned or our Founded Entities' product candidates may compete with other product candidates and marketed products for access to manufacturing facilities. Any performance failure on the part of our or our Founded Entities' existing or future manufacturers could delay clinical development, marketing approval or commercialization. Our and certain of our Founded Entities' current and anticipated future dependence upon others for the manufacturing of our Wholly Owned or our Founded Entities' product candidates may adversely

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affect our future profit margins and our ability to commercialize any product candidates that receive marketing clearance or approval on a timely and competitive basis.

If the contract manufacturing facilities on which we and certain of our Founded Entities' rely do not continue to meet regulatory requirements or are unable to meet our or our Founded Entities' supply demands, our business will be harmed.

All entities involved in the preparation of product candidates for clinical trials or commercial sale, including our and certain of our Founded Entities' existing CMOs for our Wholly Owned or our Founded Entities' product candidates, are subject to extensive regulation. Components of a finished drug or biologic product approved for commercial sale or used in late-stage clinical trials must be manufactured in accordance with cGMP, or similar regulatory requirements outside the United States. These regulations govern manufacturing processes and procedures, including recordkeeping, and the implementation and operation of quality systems to control and assure the quality of investigational products and products approved for sale. Similarly, medical devices manufactured under an IDE must be manufactured in accordance with select provisions the FDA QSR requirements, and devices cleared or approved by FDA for commercial sale must be manufactured in accordance with QSR. Poor control of production processes can lead to the introduction of contaminants or to inadvertent changes in the properties or stability of Gelesis' Plenity, Akili's EndeavorRx, our Founded Entities' other product candidates or our Wholly Owned product candidates. Our or our Founded Entities' failure, or the failure of third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us or our Founded Entities, including clinical holds, fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, suspension of production, seizures or recalls of product candidates or marketed drugs or devices, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect clinical or commercial supplies of our Wholly Owned or our Founded Entities' product candidates.

We or our CMOs must supply all necessary documentation, as applicable, in support of a marketing application, such as an NDA, BLA, PMA or MAA, on a timely basis and must adhere to regulations enforced by the FDA and other regulatory agencies through their facilities inspection program. Some of our CMOs have never produced a commercially approved pharmaceutical product and therefore have not obtained the requisite regulatory authority approvals to do so. The facilities and quality systems of some or all of our third-party contractors must pass a pre-approval inspection for compliance with the applicable regulations as a condition of regulatory approval of our Wholly Owned or our Founded Entities' product candidates or any of our other potential products. In addition, the regulatory authorities may, at any time, audit or inspect a manufacturing facility involved with the preparation of our Wholly Owned or our Founded Entities' product candidates or our other potential products or the associated quality systems for compliance with the regulations applicable to the activities being conducted. Although we oversee the CMOs, we cannot control the manufacturing process of, and are completely dependent on, our CMO partners for compliance with the regulatory requirements. If these facilities do not pass a pre-approval plant inspection, regulatory approval of the products may not be granted or may be substantially delayed until any violations are corrected to the satisfaction of the regulatory authority, if ever.

The regulatory authorities also may, at any time following clearance or approval of a product for sale, audit the manufacturing facilities of our third-party contractors. If any such inspection or audit identifies a failure to comply with applicable regulations or if a violation of our product specifications or applicable regulations occurs independent of such an inspection or audit, we or the relevant regulatory authority may require remedial measures that may be costly and/or time consuming for us or a third party to implement, and that may include the temporary or permanent suspension of a clinical study or commercial sales or the temporary or permanent closure of a facility. Any such remedial measures imposed upon us or third parties with whom we contract could materially harm our business.

Additionally, if supply from one approved manufacturer is interrupted, an alternative manufacturer would need to be qualified. For drug and biologic products, as applicable, an NDA, BLA supplement or MAA variation, or

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equivalent foreign regulatory filing, is also required, which could result in further delay. Similarly, for medical device, a new marketing application or supplement may be required. The regulatory agencies may also require additional studies if a new manufacturer is relied upon for commercial production. Switching manufacturers may involve substantial costs and is likely to result in a delay in our desired clinical and commercial timelines.

These factors could cause us or our Founded Entities to incur higher costs and could cause the delay or termination of clinical trials, regulatory submissions, required approvals, or commercialization of our Wholly Owned or our Founded Entities' product candidates. Furthermore, if our or our Founded Entities' suppliers fail to meet contractual requirements and we or our Founded Entities are unable to secure one or more replacement suppliers capable of production at a substantially equivalent cost, our or our Founded Entities' clinical trials may be delayed or we or our Founded Entities could lose potential revenue.

We have no sales, distribution, or marketing capabilities, and may invest significant financial and management resources to establish these capabilities. If we are unable to establish such capabilities or enter into agreements with third parties to market and sell our future products, if approved, we may be unable to generate any revenues.

Given our stage of development, we have no sales, distribution, or marketing capabilities. To successfully commercialize any products that may result from our development programs, we will need to develop sales and marketing capabilities in the United States, Europe, and other regions, either on our own or with others. We may enter into strategic alliances with other entities to utilize their mature marketing and distribution capabilities, but we may be unable to enter into marketing agreements on favorable terms, if at all. If our future strategic collaborators do not commit sufficient resources to commercialize our future products, if any, and we are unable to develop the necessary marketing capabilities on our own, we may be unable to generate sufficient product revenue to sustain our business. We will be competing with many companies that currently have extensive and well-funded marketing and sales operations. Without a significant internal team or the support of a third party to perform marketing and sales functions, we may be unable to compete successfully against these more established companies.

Risks Related to Our Intellectual Property

If we or our Founded Entities are unable to obtain and maintain sufficient intellectual property protection for our or our Founded Entities' existing product candidates or any other product candidates that we or they may identify, or if the scope of the intellectual property protection we or they currently have or obtain in the future is not sufficiently broad, our competitors could develop and commercialize product candidates similar or identical to ours, and our ability to successfully commercialize our existing product candidates and any other product candidates that we or they may pursue may be impaired.

As is the case with other pharmaceutical and biopharmaceutical companies, our success depends in large part on our ability to obtain and maintain protection of the intellectual property we may own solely and jointly with others, particularly patents, in the United States and other countries with respect to our Wholly Owned or our Founded Entities' product candidates and technology. We and our Founded Entities seek to protect our proprietary position by filing patent applications in the United States and abroad related to our and our Founded Entities' existing product candidates, our various proprietary technologies, and any other product candidates or technologies that we or they may identify.

Obtaining, maintaining and enforcing pharmaceutical and biopharmaceutical patents is costly, time consuming and complex, and we may not be able to file or prosecute all necessary or desirable patent applications, or maintain, enforce or license patents that may issue from such patent applications, at a reasonable cost or in a timely manner. It is also possible that we could fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Although we take reasonable measures, we have systems in place to remind us of filing and prosecution deadlines, and we employ outside firms and rely on

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outside counsel to monitor patent deadlines, we may miss or fail to meet a patent deadline, including in a foreign country, which could negatively impact our patent rights and harm our competitive position, business, and prospects. We may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the rights to patents licensed to third parties. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal, technological and factual questions and has in recent years been the subject of much litigation. The standards that the United States Patent and Trademark Office, or the USPTO, and its foreign counterparts use to grant patents are not always applied predictably or uniformly. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the United States, or vice versa. There is no assurance that all potentially relevant prior art relating to our patents and patent applications has been found, which can prevent a patent from issuing from a pending application or later invalidate or narrow the scope of an issued patent. For example, publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing or, in some cases, not at all. Therefore, we cannot know with certainty whether we were the first to make the inventions claimed in our patents or pending patent applications, or that we were the first to file for patent protection of such inventions. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not result in patents being issued that protect our Wholly Owned or our Founded Entities' product candidates, in whole or in part, or which effectively prevent others from commercializing competitive product candidates. Even if our patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors from competing with us or otherwise provide us with any competitive advantage. Our competitors may be able to circumvent our patents by developing similar or alternative product candidates in a non-infringing manner.

In addition, the issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical product candidates to ours, or limit the duration of the patent protection of our Wholly Owned or our Founded Entities' product candidates. For example, we may be subject to a third-party preissuance submission of prior art to the USPTO, or become involved in opposition, derivation, reexamination, inter partes review, post-grant review or interference proceedings challenging our owned or licensed patent rights. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our Wholly Owned or our Founded Entities' product candidates and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize drugs without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, regardless of the outcome, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

Furthermore, our and our Founded Entities' intellectual property rights may be subject to a reservation of rights by one or more third parties. We are party to a license agreement with New York University related to certain intellectual property underlying our LYT-200 and LYT-210 product candidates which is subject to certain rights of the government, including march-in rights, to such intellectual property due to the fact that the research was funded at least in part by the U.S. government. Additionally, our Founded Entities Akili, Follica, Vedanta, Sonde, Alivio and Vor, are party to license agreements with academic institutions pursuant to which such Founded Entities have in-licensed certain intellectual property underlying the product candidates AKL-T01, AKL-T02, AKL-T03, AKL-T04, FOL-004, VE303, Sonde, ALV-306, ALV-304, ALV-107 and VOR33. While these license agreements are exclusive, they contain provisions pursuant to which the government has certain rights, including march-in rights, to such patents and technologies due to the fact that the research was funded at

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least in part by the U.S. government. When new technologies are developed with government funding, the government generally obtains certain rights in any resulting patents, including a non-exclusive license authorizing the government to use the invention or to have others use the invention on its behalf. These rights may permit the government to disclose our information to third parties and to exercise march-in rights to use or allow third parties to use our technology. The government can exercise its march-in rights if it determines that action is necessary because we fail to achieve practical application of the government-funded technology, because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations, or to give preference to U.S. industry. In addition, our rights in such inventions may be subject to certain requirements to manufacture products embodying such inventions in the United States. Any exercise by the government of such rights or by any third party of its reserved rights could harm our competitive position, business, financial condition, results of operations, and prospects.

Our or our Founded Entities' rights to develop and commercialize our Wholly Owned or our Founded Entities' product candidates are subject in part to the terms and conditions of licenses granted to us and our Founded Entities by others, and the patent protection, prosecution and enforcement for some of our Wholly Owned or our Founded Entities' product candidates may be dependent on our and our Founded Entities' licensors.

We and our Founded Entities currently are reliant upon licenses of certain intellectual property rights and proprietary technologies from third parties that are important or necessary to the development of our and our Founded Entities' proprietary technologies, including technologies related to our Wholly Owned and our Founded Entities' product candidates. These licenses, and other licenses we and they may enter into in the future, may not provide adequate rights to use such intellectual property and proprietary technologies in all relevant fields of use or in all territories in which we or our Founded Entities may wish to develop or commercialize technology and product candidates in the future. Licenses to additional third-party proprietary technology or intellectual property rights that may be required for our or our Founded Entities' development programs may not be available in the future or may not be available on commercially reasonable terms. In that event, we or our Founded Entities may be required to expend significant time and resources to redesign our proprietary technology or product candidates or to develop or license replacement technology, which may not be feasible on a technical or commercial basis. If we and our Founded Entities are unable to do so, we may not be able to develop and commercialize technology and product candidates in fields of use and territories for which we are not granted rights pursuant to such licenses, which could harm our competitive position, business, financial condition, results of operations and prospects significantly.

In some circumstances, we and our Founded Entities may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain and enforce the patents, covering technology that we or our Founded Entities license from third parties. In addition, some of our or our Founded Entities' agreements with our licensors require us to obtain consent from the licensor before we can enforce patent rights, and our licensor may withhold such consent or may not provide it on a timely basis. Therefore, we cannot be certain that our licensors or collaborators will prosecute, maintain, enforce and defend such intellectual property rights in a manner consistent with the best interests of our business, including by taking reasonable measures to protect the confidentiality of know-how and trade secrets, or by paying all applicable prosecution and maintenance fees related to intellectual property registrations for any of our Wholly Owned or our Founded Entities' product candidates and proprietary technologies. We and our Founded Entities also cannot be certain that our licensors have drafted or prosecuted the patents and patent applications licensed to us in compliance with applicable laws and regulations, which may affect the validity and enforceability of such patents or any patents that may issue from such applications. This could cause us to lose rights in any applicable intellectual property that we in-license, and as a result our ability to develop and commercialize product candidates may be adversely affected and we may be unable to prevent competitors from making, using and selling competing products.

In addition, our or our Founded Entities' licensors may own or control intellectual property that has not been licensed to us and, as a result, we may be subject to claims, regardless of their merit, that we are infringing or

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otherwise violating the licensor's rights. In addition, while we cannot currently determine the amount of the royalty obligations we would be required to pay on sales of future products, if any, the amounts may be significant. The amount of our and our Founded Entities' future royalty obligations will depend on the technology and intellectual property we and our Founded Entities use in product candidates that we successfully develop and commercialize, if any. Therefore, even if we or our Founded Entities successfully develop and commercialize product candidates, we may be unable to achieve or maintain profitability. In addition, we or our Founded Entities may seek to obtain additional licenses from our licensors and, in connection with obtaining such licenses, we may agree to amend our existing licenses in a manner that may be more favorable to the licensors, including by agreeing to terms that could enable third parties (potentially including our competitors) to receive licenses to a portion of the intellectual property rights that are subject to our or our Founded Entities' existing licenses. Any of these events could have a material adverse effect on our or our Founded Entities' competitive position, business, financial conditions, results of operations, and prospects.

If we or our Founded Entities fail to comply with our obligations in the agreements under which we license intellectual property rights from third parties or these agreements are terminated or we or our Founded Entities otherwise experience disruptions to our business relationships with our licensors, we could lose intellectual property rights that are important to our business.

We are party to various agreements that we depend on to develop our Wholly Owned or our Founded Entities' product candidates and various proprietary technologies, and our rights to use currently licensed intellectual property, or intellectual property to be licensed in the future, are or will be subject to the continuation of and our and our Founded Entities' compliance with the terms of these agreements. For example, under certain of our and our Founded Entities' license agreements we and our Founded Entities are required to use commercially reasonable efforts to develop and commercialize product candidates covered by the licensed intellectual property rights, maintain the licensed intellectual property rights, and achieve certain development milestones, each of which could result in termination in the event we or our Founded Entities fail to comply.

In spite of our efforts, our or our Founded Entities' licensors might conclude that we have materially breached our obligations under such license agreements and might therefore terminate the license agreements, thereby removing or limiting our or our Founded Entities' ability to develop and commercialize products and technology covered by these license agreements.

Moreover, disputes may arise regarding intellectual property subject to a licensing agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- the extent to which our Wholly Owned or our Founded Entities' product candidates, technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- the sublicensing of patent and other rights under our or our Founded Entities' collaborative development relationships;
- our and our Founded Entities' diligence obligations under the license agreement and what activities satisfy those diligence obligations;
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our and our Founded Entities' licensors and us and our Founded Entities and our partners; and
- the priority of invention of patented technology.

In addition, certain provisions in our and our Founded Entities' license agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the agreement, either of which could have a material

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adverse effect on our or our Founded Entities' business, financial condition, results of operations and prospects. Moreover, if disputes over intellectual property that we or our Founded Entities have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates, which could have a material adverse effect on our competitive position, business, financial conditions, results of operations and prospects.

Third-party claims of intellectual property infringement may prevent or delay our development and commercialization efforts.

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties. However, our research, development and commercialization activities may be subject to claims that we infringe or otherwise violate patents or other intellectual property rights owned or controlled by third parties. There is a substantial amount of litigation, both within and outside the United States, involving patent and other intellectual property rights in the biotechnology and pharmaceutical industries, including patent infringement lawsuits, interferences, derivation, oppositions, inter partes review and post-grant review before the USPTO, and corresponding foreign patent offices. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are pursuing development candidates. Our competitors in both the United States and abroad, many of which have substantially greater resources and have made substantial investments in patent portfolios and competing technologies, may have applied for or obtained or may in the future apply for or obtain, patents that will prevent, limit or otherwise interfere with our ability to make, use and sell, if approved, our Wholly Owned or our Founded Entities' product candidates. In addition, many companies in the biotechnology and pharmaceutical industries have employed intellectual property litigation as a means to gain an advantage over their competitors. As the biotechnology and pharmaceutical industries expand and more patents are issued, and as we gain greater visibility and market exposure as a public company, the risk increases that our existing product candidates and any other product candidates that we or our Founded Entities may identify may be subject to claims of infringement of the patent rights of third parties.

There may be other third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our or our Founded Entities' existing product candidates and any other product candidates that we or they may identify. Because patent applications can take many years to issue, there may be currently pending patent applications which may later result in issued patents that our or our Founded Entities' existing product candidates and any other product candidates that we or they may identify may infringe. In addition, third parties may obtain patents in the future and claim that use of our or our Founded Entities' technologies infringes upon these patents. If any third-party patents were held by a court of competent jurisdiction to cover the manufacturing process of our or our Founded Entities' existing product candidates and any other product candidates that we or they may identify, any molecules formed during the manufacturing process, or any final product itself, the holders of any such patents may be able to block our ability to commercialize such product candidate unless we obtained a license under the applicable patents, or until such patents expire. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our Wholly Owned or our Founded Entities' product candidates. Furthermore, the scope of a patent claim is determined by an interpretation of the law, the written disclosure in a patent and the patent's prosecution history and can involve other factors such as expert opinion. Our analysis of these issues, including interpreting the relevance or the scope of claims in a patent or a pending application, determining applicability of such claims to our proprietary technologies or product candidates, predicting whether a third party's pending patent application will issue with claims of relevant scope, and determining the expiration date of any patent in the United States or abroad that we consider relevant may be incorrect, which may negatively impact our or our Founded Entities' ability to develop and market our Wholly Owned or our Founded Entities' product candidates. We do not always conduct independent reviews of pending patent applications of and patents issued to third parties.

Similarly, if any third-party patents were held by a court of competent jurisdiction to cover aspects of our or our Founded Entities' formulations, processes for manufacture or methods of use, including any combination

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therapies, the holders of any such patents may be able to block our or our Founded Entities' ability to develop and commercialize the applicable product candidate unless we obtained a license or until such patent expires. In either case, such a license may not be available on commercially reasonable terms or at all, or it may be non-exclusive, which could result in our competitors gaining access to the same intellectual property.

Parties making claims against us or our Founded Entities may obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize our or our Founded Entities' existing product candidates and any other product candidates that we may identify. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of management and employee resources from our business. In the event of a successful claim of infringement against us or our Founded Entities, we or our Founded Entities may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, pay royalties, redesign our infringing products or obtain one or more licenses from third parties, which may be impossible or require substantial time and monetary expenditure.

Parties making claims against us or our Founded Entities may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation or administrative proceedings, there is a risk that some of our confidential information could be compromised by disclosure. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have material adverse effect on our ability to raise additional funds or otherwise have a material adverse effect on our business, results of operations, financial condition and prospects.

Patent terms may be inadequate to protect our competitive position on product candidates for an adequate amount of time.

Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest U.S. non-provisional or international patent application filing date. Various extensions may be available, but the life of a patent, and the protection it affords, is limited. Even if patents covering our Wholly Owned or our Founded Entities' product candidates are obtained, once the patent life has expired, we or our Founded Entities may be open to competition from competitive products, including generics or biosimilars. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our or our Founded Entities' owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

If we or our Founded Entities are not able to obtain patent term extension or non-patent exclusivity in the United States under the Hatch-Waxman Act and in foreign countries under similar legislation, thereby potentially extending the marketing exclusivity term of our Wholly Owned or our Founded Entities' product candidates, our business may be materially harmed.

Depending upon the timing, duration and specifics of FDA marketing approval of our Wholly Owned or our Founded Entities' product candidates, one of the U.S. patents covering each of such product candidates or the use thereof may be eligible for up to five years of patent term extension under the Hatch-Waxman Act. The Hatch-Waxman Act allows a maximum of one patent to be extended per FDA approved product as compensation for the patent term lost during the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval and only those claims covering such approved drug product, a method for using it or a method for manufacturing it may be extended. Patent term extension also may be available in certain foreign countries upon regulatory approval of our Wholly Owned or our Founded Entities' product candidates. Nevertheless, we or our Founded Entities may not be granted patent term extension either in the United States or in any foreign country because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy

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applicable requirements. Moreover, the term of extension, as well as the scope of patent protection during any such extension, afforded by the governmental authority could be less than we request.

If we or our Founded Entities are unable to obtain patent term extension or restoration, or the term of any such extension is less than our request, the period during which we will have the right to exclusively market our product may be shortened and our competitors may obtain approval of competing products following our patent expiration sooner, and our revenue could be reduced, possibly materially.

Further, for certain of our and our Founded Entities' licensed patents, we and our Founded Entities do not have the right to control prosecution, including filing with the USPTO, a petition for patent term extension under the Hatch-Waxman Act. Thus, if one of our or our Founded Entities' licensed patents is eligible for patent term extension under the Hatch-Waxman Act, we may not be able to control whether a petition to obtain a patent term extension is filed with, or whether a patent term extension is obtained from, the USPTO.

Also, there are detailed rules and requirements regarding the patents that may be submitted to the FDA for listing in the Approved Drug Products with Therapeutic Equivalence Evaluations, or the Orange Book. We or our Founded Entities may be unable to obtain patents covering our Wholly Owned or our Founded Entities' product candidates that contain one or more claims that satisfy the requirements for listing in the Orange Book. Even if we or our Founded Entities submit a patent for listing in the Orange Book, the FDA may decline to list the patent, or a manufacturer of generic drugs may challenge the listing. If or when one of our Wholly Owned or our Founded Entities' product candidates is approved and a patent covering that product candidate is not listed in the Orange Book, a manufacturer of generic drugs would not have to provide advance notice to us of any abbreviated new drug application, or ANDA, filed with the FDA to obtain permission to sell a generic version of such product candidate.

If we are unable to protect the confidentiality of our trade secrets, the value of our technology could be materially adversely affected and our business would be harmed.

We and our Founded Entities consider proprietary trade secrets, confidential know-how and unpatented know-how to be important to our business. We and our Founded Entities may rely on trade secrets and confidential know-how to protect our technology, especially where patent protection is believed by us to be of limited value. However, trade secrets and confidential know-how are difficult to protect, and we have limited control over the protection of trade secrets and confidential know-how used by our licensors, collaborators and suppliers. Because we have relied in the past on third parties to manufacture our Wholly Owned or our Founded Entities' product candidates, because we may continue to do so in the future, and because we expect to collaborate with third parties on the development of our current product candidates and any future product candidates we develop, we may, at times, share trade secrets with them. We also conduct joint research and development programs that may require us to share trade secrets under the terms of our research and development partnerships or similar agreements. Under such circumstances, trade secrets and confidential know-how can be difficult to maintain as confidential.

We and our Founded Entities seek to protect our confidential proprietary information, in part, by confidentiality agreements and invention assignment agreements with our employees, consultants, scientific advisors, contractors and collaborators. These agreements are designed to protect our proprietary information. However, we cannot be certain that such agreements have been entered into with all relevant parties, and we cannot be certain that our and our Founded Entities' trade secrets and other confidential proprietary information will not be disclosed or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. For example, any of these parties may breach the agreements and disclose proprietary information, including trade secrets, and we may not be able to obtain adequate remedies for such breaches. We and our Founded Entities also seek to preserve the integrity and confidentiality of our confidential proprietary information by maintaining physical security of our premises and physical and electronic security of our information technology systems, but it is possible that these security

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measures could be breached. If any of our or our Founded Entities' confidential proprietary information were to be lawfully obtained or independently developed by a competitor, we or our Founded Entities would have no right to prevent such competitor from using that technology or information to compete with us, which could harm our competitive position.

Unauthorized parties may also attempt to copy or reverse engineer certain aspects of our or our Founded Entities' products that we consider proprietary. We or our Founded Entities may not be able to obtain adequate remedies in the event of such unauthorized use. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret can be difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. Trade secrets will also over time be disseminated within the industry through independent development, the publication of journal articles and the movement of personnel skilled in the art from company to company or academic to industry scientific positions. Though our or our Founded Entities' agreements with third parties typically restrict the ability of our advisors, employees, collaborators, licensors, suppliers, third-party contractors and consultants to publish data potentially relating to our trade secrets, our agreements may contain certain limited publication rights. In addition, if any of our or our Founded Entities' trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent such competitor from using that technology or information to compete with us, which could harm our competitive position. Despite employing the contractual and other security precautions described above, the need to share trade secrets increases the risk that such trade secrets become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. If any of these events occurs or if we otherwise lose protection for our trade secrets, the value of such information may be greatly reduced and our competitive position, business, financial condition, results of operations, and prospects would be harmed.

If our or our Founded Entities' trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Our or our Founded Entities' registered or unregistered trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We and our Founded Entities may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential collaborators or customers in our markets of interest. At times, competitors may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. Over the long term, if we and our Founded Entities are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected. We and our Founded Entities may license our trademarks and trade names to third parties, such as distributors. Though these license agreements may provide guidelines for how our or our Founded Entities' trademarks and trade names may be used, a breach of these agreements or misuse of our trademarks and tradenames by our licensees may jeopardize our rights in or diminish the goodwill associated with our trademarks and trade names. Our or our Founded Entities' efforts to enforce or protect our proprietary rights related to trademarks, trade names, trade secrets, domain names, copyrights or other intellectual property may be ineffective and could result in substantial costs and diversion of resources and could adversely affect our competitive position, business, financial condition, results of operations and prospects.

We may become involved in lawsuits to protect or enforce our or our Founded Entities' patents or other intellectual property, which could be expensive, time consuming and unsuccessful.

Competitors may infringe our or our Founded Entities' patents or other intellectual property. Our and our Founded Entities' ability to enforce our patent or other intellectual property rights depends on our ability to detect infringement. It may be difficult to detect infringers who do not advertise the components or methods that are used in connection with their products and services. Moreover, it may be difficult or impossible to obtain

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evidence of infringement in a competitor's or potential competitor's product or service. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded if we were to prevail may not be commercially meaningful. If we were to initiate legal proceedings against a third party to enforce a patent covering one or more of our Wholly Owned or our Founded Entities' product candidates, the defendant could counterclaim that the patent covering our or our Founded Entities' product candidate is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including subject matter eligibility, novelty, nonobviousness, written description or enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. The outcome following legal assertions of invalidity and unenforceability is unpredictable. Interference or derivation proceedings provoked by third parties or brought by us or declared by the USPTO may be necessary to determine the priority of inventions with respect to our or our Founded Entities' patents or patent applications. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms or at all, or if a non-exclusive license is offered and our competitors gain access to the same technology. Our defense of litigation or interference or derivation proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. In addition, the uncertainties associated with litigation could have a material adverse effect on our ability to raise the funds necessary to continue clinical trials, continue research programs, license necessary technology from third parties, or enter into development partnerships that would help us bring product candidates to market. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our or our Founded Entities' confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions, or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could adversely impact the price of our ADSs. Furthermore, any of the foregoing could have a material adverse effect on our financial condition, results of operations, and prospects.

We and our Founded Entities may be subject to claims challenging the inventorship of our patents and other intellectual property.

Our and our Founded Entities' agreements with employees and our personnel policies provide that any inventions conceived by an individual in the course of rendering services to us shall be our exclusive property. Although our policy is to have all such individuals complete these agreements, we may not obtain these agreements in all circumstances, and individuals with whom we have these agreements may not comply with their terms. The assignment of intellectual property may not be automatic upon the creation of an invention and despite such agreement, such inventions may become assigned to third parties. In the event of unauthorized use or disclosure of our trade secrets or proprietary information, these agreements, even if obtained, may not provide meaningful protection, particularly for our trade secrets or other confidential information.

We, our Founded Entities or our licensors may be subject to claims that former employees, collaborators or other third parties have an interest in our owned or in-licensed patents, trade secrets, or other intellectual property as an inventor or co-inventor. For example, we, our Founded Entities or our licensors may have inventorship disputes arising from conflicting obligations of employees, consultants or others who are involved in developing our Wholly Owned or our Founded Entities' product candidates. Litigation may be necessary to defend against these and other claims challenging inventorship of our, our Founded Entities' or our licensors' ownership of our owned or in-licensed patents, trade secrets or other intellectual property. If we, our Founded Entities or our licensors fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, intellectual property that is important to our Wholly Owned or our Founded Entities' product candidates. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

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Any of the foregoing could have a material adverse effect on our competitive position, business, financial condition, results of operations and prospects.

Issued patents covering our Wholly Owned or our Founded Entities' product candidates could be found invalid or unenforceable if challenged in courts or patent offices.

If we, our Founded Entities or one of our licensing partners initiated legal proceedings against a third party to enforce a patent covering one or more of our Wholly Owned or our Founded Entities' product candidates, the defendant could counterclaim that the patent covering the relevant product candidate is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including subject matter eligibility, novelty, nonobviousness, written description or enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post grant review, and equivalent proceedings in foreign jurisdictions (*e.g.*, opposition proceedings). Such proceedings could result in revocation or amendment to our or our Founded Entities' patents in such a way that they no longer cover our Wholly Owned or our Founded Entities' product candidates. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our Wholly Owned or our Founded Entities' product candidates. Such a loss of patent protection would have a material adverse impact on our business.

We or our Founded Entities may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed confidential information of third parties or that our employees have wrongfully used or disclosed alleged trade secrets of their former employers.

As is common in the biotechnology and pharmaceutical industries, we and our Founded Entities employ individuals who were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we and our Founded Entities try to ensure that our employees, consultants and independent contractors do not use the proprietary information or know-how of others in their work for us, we or our Founded Entities may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of any of our employee's former employer or other third parties. Litigation may be necessary to defend against these claims. If we or our Founded Entities fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel, which could adversely impact our business. Even if we or our Founded Entities are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or applications will be due to be paid to the USPTO and various governmental patent agencies outside of the United States in several stages over the lifetime of the patents and/or applications. We and our Founded Entities have systems in place to remind us to pay these fees, and we and our Founded Entities employ outside firms and rely on outside counsel to pay these fees due to the USPTO and non-U.S. patent agencies. However, we and our Founded Entities cannot guarantee that our licensors have similar systems and procedures in place to pay such

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fees. In addition, the USPTO and various non-U.S. governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply, and in many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. However, there are situations in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, our competitors might be able to enter the market and this circumstance would have a material adverse effect on our business.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting and defending patents on our Wholly Owned or our Founded Entities' product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect or enforce intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we and our Founded Entities may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our and our Founded Entities' technologies in jurisdictions where we have not obtained patent protection to develop their own products and may also export infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our or our Founded Entities' products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets, and other intellectual property protection, particularly those relating to biotechnology and pharmaceutical products, which could make it difficult for us to stop the infringement of our or our Founded Entities' patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our or our Founded Entities' patent rights in foreign jurisdictions, whether or not successful, could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our or our Founded Entities' patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing, and could provoke third parties to assert claims against us or our Founded Entities. We may not prevail in any lawsuits that we or our Founded Entities initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

In some jurisdictions including European Union countries, compulsory licensing laws compel patent owners to grant licenses to third parties. In addition, some countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we, our Founded Entities or any of our licensors are forced to grant a license to third parties under patents relevant to our or our Founded Entities' business, or if we, our Founded Entities or our licensors are prevented from enforcing patent rights against third parties, our competitive position may be substantially impaired in such jurisdictions.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our and our Founded Entities' ability to protect our products.

Changes in either the patent laws or interpretation of the patent laws in the United States could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents. Assuming that other requirements for patentability are met, prior to March 2013, in the United

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States, the first to invent the claimed invention was entitled to a patent, while outside the United States, the first to file a patent application was entitled to the patent. After March 2013, under the Leahy-Smith America Invents Act, or the America Invents Act, enacted in September 2011, the United States transitioned to a first inventor to file system in which, assuming that other requirements for patentability are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third party was the first to invent the claimed invention. A third party that files a patent application in the USPTO after March 2013, but before us could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by such third party. This will require us and our Founded Entities to be cognizant of the time from invention to filing of a patent application and be diligent in filing patent applications, but circumstances could prevent us from promptly filing patent applications on our inventions. Since patent applications in the United States and most other countries are confidential for a period of time after filing or until issuance, we cannot be certain that we, our Founded Entities or our licensors were the first to either (i) file any patent application related to our Wholly Owned or our Founded Entities' product candidates or (ii) invent any of the inventions claimed in our, our Founded Entities or our licensor's patents or patent applications.

The America Invents Act also includes a number of significant changes that affect the way patent applications are prosecuted and also may affect patent litigation. These include allowing third party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by USPTO administered post-grant proceedings, including post-grant review, inter partes review, and derivation proceedings. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in United States federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. Therefore, the America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our or our Founded Entities' owned or in-licensed patent applications and the enforcement or defense of our or our Founded Entities' owned or in-licensed issued patents, all of which could have a material adverse effect on our competitive position, business, financial condition, results of operations, and prospects.

In addition, the patent positions of companies in the development and commercialization of pharmaceuticals are particularly uncertain. Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. This combination of events has created uncertainty with respect to the validity and enforceability of patents, once obtained. Depending on future actions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could have a material adverse effect on our existing patent portfolio and our ability to protect and enforce our intellectual property in the future.

Our or our Founded Entities' proprietary rights may not adequately protect our technologies and product candidates, and do not necessarily address all potential threats to our competitive advantage.

The degree of future protection afforded by our or our Founded Entities' intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our or our Founded Entities' business, or permit us to maintain our competitive advantage. The following examples are illustrative:

- others may be able to make products that are the same as or similar to our Wholly Owned or our Founded Entities' product candidates but that are not covered by the claims of the patents that we or our Founded Entities own or have exclusively licensed;
- others, including inventors or developers of our or our Founded Entities' owned or in-licensed patented technologies who may become involved with competitors, may independently develop similar technologies that function as alternatives or replacements for any of our or our Founded Entities' technologies without infringing our intellectual property rights;

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- we, our Founded Entities or our licensors or our other collaboration partners might not have been the first to conceive and reduce to practice the inventions covered by the patents or patent applications that we or our Founded Entities own or license or will own or license;
- we, our Founded Entities or our licensors or our other collaboration partners might not have been the first to file patent applications covering certain of the patents or patent applications that we or they own or have obtained a license, or will own or will have obtained a license;
- we, our Founded Entities or our licensors may fail to meet obligations to the U.S. government with respect to in-licensed patents and patent applications funded by U.S. government grants, leading to the loss of patent rights;
- it is possible that our or our Founded Entities' pending patent applications will not result in issued patents;
- it is possible that there are prior public disclosures that could invalidate our, our Founded Entities' or our licensors' patents;
- issued patents that we or our Founded Entities own or exclusively license may not provide us with any competitive advantage, or may be held invalid or unenforceable, as a result of legal challenges by our competitors;
- our or our Founded Entities' competitors might conduct research and development activities in countries where we do not have patent rights, or in countries where research and development safe harbor laws exist, and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- ownership, validity or enforceability of our, our Founded Entities' or our licensors' patents or patent applications may be challenged by third parties; and
- the patents of third parties or pending or future applications of third parties, if issued, may have an adverse effect on our business.

Risks Related to Our Business and Industry

The outbreak of, and the long term effects of the outbreak of, the novel strain of coronavirus, SARS-CoV-2, which causes COVID-19, could adversely impact our business, including our clinical trials and preclinical studies.

Public health crises such as pandemics or other global emergencies could adversely impact our business. In December 2019, a novel strain of coronavirus, SARS-CoV-2, which causes coronavirus disease 2019, or COVID-19, surfaced in Wuhan, China. Since then, COVID-19 has spread globally. In response to the spread of COVID-19 and governmental shelter-in-place orders, we have encouraged our administrative employees to work outside of our offices and allowed staff in our laboratory facilities to operate under applicable government orders and protocols designed to protect their health and safety.

As a result of the COVID-19 outbreak or any future pandemics, we have experienced, and may in the future experience, disruptions that severely impact our business, clinical trials and preclinical studies, including:

- delays or difficulties in enrolling patients in our clinical trials;
- delays or difficulties in clinical site initiation, including difficulties in recruiting clinical site investigators and clinical site staff;
- delays or disruptions in non-clinical experiments due to unforeseen circumstances at contract research organizations, or CROs, and vendors along their supply chain;

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- increased rates of patients withdrawing from our clinical trials following enrollment as a result of contracting COVID-19, being forced to quarantine, or not accepting home health visits;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- interruption of key clinical trial activities, such as clinical trial site data monitoring, due to limitations on travel imposed or recommended by federal or state governments, employers and others or interruption of clinical trial subject visits and study procedures (particularly any procedures that may be deemed non-essential), which may impact the integrity of subject data and clinical study endpoints;
- interruption or delays in the operations of the FDA and comparable foreign regulatory agencies, which may impact review and approval timelines;
- interruption of, or delays in receiving, supplies of our product candidates from our contract manufacturing organizations due to staffing shortages, production slowdowns or stoppages and disruptions in delivery systems; and
- limitations on employee resources that would otherwise be focused on the conduct of our preclinical studies and clinical trials, including because of sickness of employees or their families, the desire of employees to avoid contact with large groups of people, an increased reliance on working from home or mass transit disruptions.

These and other factors arising from the COVID-19 pandemic could worsen in countries that are already afflicted with COVID-19, could continue to spread to additional countries, or could return to countries where the pandemic has been partially contained, each of which could further adversely impact our ability to conduct clinical trials and our business generally, and could have a material adverse impact on our operations and financial condition and results.

In addition, the trading prices for biopharmaceutical companies have been highly volatile as a result of the COVID-19 pandemic. As a result, if we require any further capital we may face difficulties raising capital through sales of our common stock or such sales may be on unfavorable terms. The COVID-19 outbreak continues to rapidly evolve. The extent to which the outbreak may impact our business, preclinical studies and clinical trials will depend on future developments, which are highly uncertain and cannot be predicted with confidence, such as the ultimate geographic spread of the disease, the duration of the outbreak, travel restrictions and actions to contain the outbreak or treat its impact, such as social distancing and quarantines or lock-downs in the United States and other countries, business closures or business disruptions and the effectiveness of actions taken in the United States and other countries to contain and treat the disease.

To the extent the COVID -19 pandemic adversely affects our business and financial results, it may also have the effect of heightening many of the other risks described in this “Risk Factors” section, such as those relating to our clinical development operations, the supply chain for our ongoing and planned clinical trials, and the availability of governmental and regulatory authorities to conduct inspections of our clinical trial sites, review materials submitted by us in support of our applications for regulatory approval and grant approval for our product candidates.

We may not be successful in our efforts to develop LYT-100 for the treatment of patients with respiratory complications that persist following COVID-19.

We plan to conduct a global, randomized, placebo-controlled Phase 2 trial to evaluate the efficacy, safety and tolerability of LYT-100 in non-critical COVID-19 patients with respiratory complications. As currently designed, patients will receive treatment for up to three months and the trial is expected to enroll up to 168 patients.

The timing and success of this proposed clinical trial will depend on our ability to enroll patients in the trial. Many other companies are pursuing the development of product candidates for the treatment of COVID-19, and

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patient enrollment may be affected by availability of commercially available treatment. Our ability to enroll a sufficient number of patients could also be impacted by a decrease in COVID-19 hospitalization rates or a decrease in COVID-19 infection rate. Our inability to enroll a sufficient number of patients could result in significant delays or could require us to abandon the trial and development of LYT-100 for the treatment of these patients altogether.

Given the rapidity of the onset of the COVID-19 pandemic, scientific and medical research on the SARS-CoV-2 virus is ongoing and evolving. Results from ongoing clinical trials and discussions with regulatory authorities may raise new questions and require us to redesign proposed clinical trials, including revising proposed endpoints or adding new clinical trial sites or cohorts of subjects. Any such developments could delay the development timeline for and materially increase the cost of LYT-100. Furthermore, we cannot be certain that the evidence that we believe suggests that LYT-100 may be beneficial to these patients will be established in a clinical trial. The failure of LYT-100 to demonstrate safety and efficacy in these patients could negatively impact the perception of us and LYT-100 by investors and it is possible that unexpected safety issues could occur in these COVID-19 patients. Any such safety issues could affect our development plans for LYT-100 in other indications.

We attempt to distribute our scientific, execution and financing risks across a variety of therapeutic areas, indications, programs and modalities that relate to the brain, immune system and gastrointestinal system and the interface between them. However, our assessment of, and approach to, risk may not be comprehensive or effectively avoid delays or failures in one or more of our programs. Failures in one or more of our programs could adversely impact other programs and have a material adverse impact on our business, results of operations and ability to fund our business.

We are creating medicines for serious diseases involving the brain, immune system and gastrointestinal, or BIG, system and the interface between those systems, or the BIG Axis. We have made investments in our Founded Entities, R&D infrastructure, and clinical capabilities that have enabled us to establish the underlying programs and platforms that have resulted in 24 products and product candidates that are being advanced within our Wholly Owned Programs or by our Founded Entities. Of these products and product candidates, 12 are clinical-stage, and two have been cleared by the FDA and granted marketing authorization in the EEA. Our Non-Controlled Founded Entities are advancing eight of these product candidates, including two that are expected to enter Phase 3/Pivotal studies, as well as two FDA-cleared products. Our Controlled Founded Entities are advancing nine of these product candidates, including one that is expected to enter a Phase 3 study, and three that are in Phase 2 development, and we are advancing four of these product candidates within our Wholly Owned Pipeline. As our and certain of our Founded Entities' product candidates progress through clinical development, we or others may determine that certain of our risk allocation decisions were incorrect or insufficient, that individual programs or our science in general has technology or biology risks that were unknown or underappreciated, or that we have allocated resources across our programs in such a way that did not maximize potential value creation. All of these risks may relate to our current and future programs sharing similar science and infrastructure, and in the event material decisions in any of these areas turn out to have been incorrect or under-optimized, we may experience a material adverse impact on our business and ability to fund our operations.

Our business is highly dependent on the clinical advancement of our programs and our success in identifying potential product candidates across the BIG Axis. Delay or failure to advance our programs could adversely impact our business.

We are developing new medicines based on the lymphatic system, the BIG systems and the BIG Axis. Over time, our and our Founded Entities' preclinical and clinical work led us to identify potential synergies across target therapeutic indications in the BIG Axis, generating a broad portfolio of product candidates across multiple programs. Even if a particular program is successful in any phase of development, such program could fail at a later phase of development, and other programs within the same therapeutic area may still fail at any phase of development including at phases where earlier programs in that therapeutic area were successful. This may be a result of technical challenges unique to that program or due to biology risk, which is unique to every program. As

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we progress our programs through clinical development, there may be new technical challenges that arise that cause an entire program or a group of programs within an area of focus in the BIG Axis to fail. While we aim to segregate risk across programs, and in certain cases among our Founded Entities, there may be foreseen and unforeseen risks across our Wholly Owned Pipeline and programs being developed by our Founded Entities in whole or in part. In addition, if any one or more of our clinical programs encounter safety, tolerability, or efficacy problems, developmental delays, regulatory issues, or other problems, our business could be significantly harmed.

Our future success depends on our ability to retain key employees, directors, consultants and advisors and to attract, retain and motivate qualified personnel.

Our ability to compete in the highly competitive biotechnology industry depends upon our ability to attract and retain highly qualified managerial, scientific and medical personnel. We are highly dependent on the management, research and development, clinical, financial and business development expertise of our executive officers, our directors, as well as the other members of our scientific and clinical teams, including Daphne Zohar, our Chief Executive Officer, Bharatt Chowrira, our President and Chief of Business and Strategy, Stephen Muniz, our Chief Operating Officer, Joep Muijers, our Chief of Portfolio Strategy, Eric Elenko, our Chief Innovation Officer, and Joseph Bolen, Ph.D., our Chief Scientific Officer. The loss of the services of any of our executive officers and other key personnel, and our inability to find suitable replacements could result in delays in product development and our financial condition and results of operations could be materially adversely affected.

Furthermore, each of our executive officers may terminate their employment with us at any time. Recruiting and retaining qualified scientific and clinical personnel and, if we progress the development of our Wholly Owned Pipeline toward scaling up for commercialization, sales and marketing personnel, will also be critical to our success. The loss of the services of our executive officers or other key employees could impede the achievement of research, development and commercialization objectives and seriously harm our ability to successfully implement our business strategy. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain regulatory approval for and commercialize our Wholly Owned product candidates. Competition to hire qualified personnel in our industry is intense, and we may be unable to hire, train, retain or motivate these key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. Furthermore, to the extent we hire personnel from competitors, we may be subject to allegations that they have been improperly solicited or that they have divulged proprietary or other confidential information, or that their former employers own their research output. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions.

In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. If we are unable to continue to attract and retain high quality personnel, our ability to pursue our growth strategy will be limited.

We will need to expand our organization and we may experience difficulties in managing this growth, which could disrupt our operations.

As we mature, we expect to expand our full-time employee base and to hire more consultants and contractors. Our management may need to divert a disproportionate amount of its attention away from our day-to-day activities and devote a substantial amount of time toward managing these growth activities. We may not be able to effectively manage the expansion of our operations, which may result in weaknesses in our infrastructure, operational mistakes, loss of business opportunities, loss of employees and reduced productivity among

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remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of additional product candidates. If our management is unable to effectively manage our growth, our expenses may increase more than expected, our ability to generate and/or grow revenues could be reduced, and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize product candidates and compete effectively will depend, in part, on our ability to effectively manage any future growth.

Because we are developing multiple programs and product candidates and are pursuing a variety of target indications and treatment modalities, we may expend our limited resources to pursue a particular product candidate and fail to capitalize on development opportunities or product candidates that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and personnel resources, we may forgo or delay pursuit of opportunities with potential target indications or product candidates that later prove to have greater commercial potential than our current and planned development programs and product candidates. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and other future product candidates for specific indications may not yield any commercially viable future product candidates. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may be required to relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such future product candidates.

Additionally, we may pursue additional in-licenses or acquisitions of development-stage assets or programs, which entails additional risk to us. For example, we recently acquired LYT-100, which is our most advanced product candidate and to which we are investing significant resources for its development. Identifying, selecting and acquiring promising product candidates requires substantial technical, financial and human resources expertise. Efforts to do so may not result in the actual acquisition or license of a successful product candidate, potentially resulting in a diversion of our management's time and the expenditure of our resources with no resulting benefit. For example, if we are unable to identify programs that ultimately result in approved products, we may spend material amounts of our capital and other resources evaluating, acquiring and developing products that ultimately do not provide a return on our investment.

Product liability lawsuits against us could cause us to incur substantial liabilities and could limit commercialization of any product candidates that we may develop.

We face an inherent risk of product liability exposure related to the testing of product candidates in human clinical trials and will face an even greater risk if we commercially sell any products that we may develop. If we cannot successfully defend ourselves against claims that our Wholly Owned product candidates or medicines caused injuries, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates or medicines that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend the related litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue; and
- the inability to commercialize our Wholly Owned product candidates.

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Although we maintain product liability insurance, including coverage for clinical trials that we sponsor, it may not be adequate to cover all liabilities that we may incur. We anticipate that we will need to increase our insurance coverage as we commence additional clinical trials and if we successfully commercialize any product candidates. The market for insurance coverage is increasingly expensive, and the costs of insurance coverage will increase as our clinical programs increase in size. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

The increasing use of social media platforms presents new risks and challenges.

Social media is increasingly being used to communicate about our and our Founded Entities' clinical development programs and the diseases our therapeutics are being developed to treat, and we intend to utilize appropriate social media in connection with our commercialization efforts following approval of our Wholly Owned product candidates. Social media practices in the biopharmaceutical industry continue to evolve and regulations relating to such use are not always clear. This evolution creates uncertainty and risk of noncompliance with regulations applicable to our business. For example, patients may use social media channels to comment on their experience in an ongoing blinded clinical study or to report an alleged adverse event. When such disclosures occur, there is a risk that we fail to monitor and comply with applicable adverse event reporting obligations or we may not be able to defend our business or the public's legitimate interests in the face of the political and market pressures generated by social media due to restrictions on what we may say about our Wholly Owned product candidates. There is also a risk of inappropriate disclosure of sensitive information or negative or inaccurate posts or comments about us on any social networking website. If any of these events were to occur or we otherwise fail to comply with applicable regulations, we could incur liability, face regulatory actions or incur other harm to our business.

Our and our Founded Entities' employees, independent contractors, consultants, commercial partners and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk of fraud, misconduct or other illegal activity by our employees, independent contractors, consultants, commercial partners and vendors as well as the employees, independent contractors, consultants, commercial partners and vendors of our Founded Entities. Misconduct by these parties could include intentional, reckless and negligent conduct that fails to: comply with the laws of the FDA and comparable foreign regulatory authorities; provide true, complete and accurate information to the FDA and comparable foreign regulatory authorities; comply with manufacturing standards we have established; comply with healthcare fraud and abuse laws in the United States and similar foreign fraudulent misconduct laws; or report financial information or data accurately or to disclose unauthorized activities. If we or our Founded Entities obtain FDA approval of our Wholly Owned or our Founded Entities' product candidates and begin commercializing those products in the United States, our potential exposure under such laws will increase significantly, and our costs associated with compliance with such laws are also likely to increase. In particular, research, sales, marketing, education and other business arrangements in the healthcare industry are subject to extensive laws designed to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, educating, marketing and promotion, sales and commission, certain customer incentive programs and other business arrangements generally. Activities subject to these laws also involve the improper use of information obtained in the course of patient recruitment for clinical trials, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by employees and third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

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Employee litigation and unfavorable publicity could negatively affect our future business.

Our employees may, from time to time, bring lawsuits against us regarding injury, creating a hostile work place, discrimination, wage and hour disputes, sexual harassment, or other employment issues. In recent years, there has been an increase in the number of discrimination and harassment claims generally. Coupled with the expansion of social media platforms and similar devices that allow individuals access to a broad audience, these claims have had a significant negative impact on some businesses. Certain companies that have faced employment- or harassment-related lawsuits have had to terminate management or other key personnel, and have suffered reputational harm that has negatively impacted their business. If we were to face any employment-related claims, our business could be negatively affected.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could harm our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties for failure to comply with such laws and regulations.

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Our failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Unfavorable global economic conditions, including conditions resulting from the COVID-19 pandemic, could adversely affect our business, financial condition or results of operations.

Our ability to invest in and expand our business and meet our financial obligations, to attract and retain third-party contractors and collaboration partners and to raise additional capital depends on our operating and financial performance, which, in turn, is subject to numerous factors, including the prevailing economic and political conditions and financial, business and other factors beyond our control, such as the rate of unemployment, the number of uninsured persons in the United States, political influences and inflationary pressures. For example, an overall decrease in or loss of insurance coverage among individuals in the United States as a result of unemployment, underemployment or the repeal of certain provisions of the ACA, may decrease the demand for healthcare services and pharmaceuticals. If fewer patients are seeking medical care because they do not have insurance coverage, we and our Founded Entities may experience difficulties in any eventual commercialization of our Wholly Owned or our Founded Entities' product candidates and our business, results of operations, financial condition and cash flows could be adversely affected.

In addition, our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets upon which pharmaceutical and biopharmaceutical companies such as us are dependent for sources of capital. In the past, global financial crises have caused extreme volatility and

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disruptions in the capital and credit markets. A severe or prolonged economic downturn could result in a variety of risks to our business, including a reduced ability to raise additional capital when needed on acceptable terms, if at all, and weakened demand for our Wholly Owned product candidates. A weak or declining economy could also strain our suppliers, possibly resulting in supply disruption. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

The COVID-19 pandemic has had, and will continue to have, an unfavorable impact on global economic conditions, including a decrease in or loss of insurance coverage among individuals in the United States, an increase in unemployment, volatility in markets, and other negative impacts that have arisen or will arise over the course of the COVID-19 pandemic.

Cyber-attacks or other failures in our telecommunications or information technology systems, or those of our collaborators, contract research organizations, third-party logistics providers, distributors or other contractors or consultants, could result in information theft, data corruption and significant disruption of our business operations.

We, our collaborators, our CROs, third-party logistics providers, distributors and other contractors and consultants utilize information technology, or IT, systems and networks to process, transmit and store electronic information in connection with our business activities. As use of digital technologies has increased, cyber incidents, including third parties gaining access to employee accounts using stolen or inferred credentials, computer malware, viruses, spamming, phishing attacks or other means, and deliberate attacks and attempts to gain unauthorized access to computer systems and networks, have increased in frequency and sophistication. These threats pose a risk to the security of our, our collaborators', our CROs', third-party logistics providers', distributors' and other contractors' and consultants' systems and networks, and the confidentiality, availability and integrity of our data. There can be no assurance that we will be successful in preventing cyber-attacks or successfully mitigating their effects. Similarly, there can be no assurance that our collaborators, CROs, third-party logistics providers, distributors and other contractors and consultants will be successful in protecting our clinical and other data that is stored on their systems. Although to our knowledge we have not experienced any such material system failure or material security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of development programs and business operations.

Any cyber-attack, data breach or destruction or loss of data could result in a violation of applicable U.S. and international privacy, data protection and other laws, and subject us to litigation and governmental investigations and proceedings by federal, state and local regulatory entities in the United States and by international regulatory entities, resulting in exposure to material civil and/or criminal liability. Further, our general liability insurance and corporate risk program may not cover all potential claims to which we are exposed and may not be adequate to indemnify us for all liability that maybe imposed; and could have a material adverse effect on our business and prospects. For example, the loss of clinical trial data from completed or ongoing clinical trials for any of our Wholly Owned or our Founded Entities' product candidates could result in delays in our development and regulatory approval efforts and significantly increase our costs to recover or reproduce the data. In addition, we may suffer reputational harm or face litigation or adverse regulatory action as a result of cyber-attacks or other data security breaches and may incur significant additional expense to implement further data protection measures.

Changes in funding for the FDA, the SEC and other government agencies could hinder their ability to hire and retain key leadership and other personnel, prevent new products and services from being developed or commercialized in a timely manner or otherwise prevent those agencies from performing normal functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA to review and approve new products or take action with respect to other regulatory matters can be affected by a variety of factors, including government budget and funding levels, ability to hire

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and retain key personnel and accept payment of user fees, and statutory, regulatory, and policy changes. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of the SEC and other government agencies on which our operations may rely, including those that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable. The priorities of the FDA may also influence the ability of the FDA to take action on regulatory matters, for example the FDA's budget and funding levels and ability to hire and retain key personnel.

Disruptions at the FDA and other agencies may also slow the time necessary for new drugs to be reviewed and/or approved, or for other actions to be taken, by relevant government agencies, which would adversely affect our business. For example, over the last several years, including for 35 days beginning on December 22, 2018, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA and the SEC, have had to furlough critical FDA, SEC and other government employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Similarly, a prolonged government shutdown could prevent the timely review of our patent applications by the USPTO, which could delay the issuance of any U.S. patents to which we might otherwise be entitled. Further, in our operations as a public company, future government shutdowns could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

We or the third parties upon whom we depend may be adversely affected by a natural disaster and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Natural disasters could severely disrupt our operations, and have a material adverse effect on our business, results of operations, financial condition and prospects. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as the manufacturing facilities of our third-party CMOs, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place currently are limited and are unlikely to prove adequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which, could have a material adverse effect on our business, financial condition, results of operations and prospects.

Risks Related to Our International Operations

As a company based in the United Kingdom, we are subject to economic, political, regulatory and other risks associated with international operations.

As a company based in the United Kingdom, our business is subject to risks associated with being organized outside of the United States. While the majority of our operations are in the United States and our functional currency is the U.S. dollar, our future results could be harmed by a variety of international factors, including:

- economic weakness, including inflation, or political instability in particular non-U.S. economies and markets;
- differing and changing regulatory requirements;
- difficulties in compliance with different, complex and changing laws, regulations and court systems of multiple jurisdictions and compliance with a wide variety of foreign laws, treaties and regulations;
- changes in a specific country's or region's political or economic environment, including, but not limited to, the implications of one or more of the following occurring the decision of the United Kingdom:
 - relating to the terms of the future trading arrangement between the United Kingdom and the European Union following the expiry of the Brexit transition period on December 31, 2020;

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- a second referendum on Scottish independence from the United Kingdom; and/or
- a snap general election; and
- negative consequences from changes in tax laws;

Our international operations may expose us to business, regulatory, political, operational, financial, pricing and reimbursement and economic risks associated with doing business outside of the United States.

Our business strategy incorporates potential international expansion to target patient populations outside the United States. If we or our Founded Entities receive regulatory approval for and commercialize any of our Wholly Owned or our Founded Entities' product candidates in patient populations outside the United States, we may hire sales representatives and conduct physician and patient association outreach activities outside of the United States. Doing business internationally involves a number of risks, including, but not limited to:

- multiple, conflicting, and changing laws and regulations such as privacy regulations, tax laws, export and import restrictions, employment laws, regulatory requirements, and other governmental approvals, permits, and licenses;
- failure by us to obtain and maintain regulatory approvals for the use of our products in various countries;
- additional potentially relevant third-party patent rights;
- complexities and difficulties in obtaining protection and enforcing our intellectual property;
- difficulties in staffing and managing foreign operations;
- complexities associated with managing multiple payor reimbursement regimes, government payors, or patient self-pay systems;
- limits in our ability to penetrate international markets;
- financial risks, such as longer payment cycles, difficulty collecting accounts receivable, the impact of local and regional financial crises on demand and payment for our products, and exposure to foreign currency exchange rate fluctuations;
- natural disasters, political and economic instability, including wars, terrorism, and political unrest, outbreak of disease, boycotts, curtailment of trade, and other business restrictions;
- certain expenses including, among others, expenses for travel, translation, and insurance; and
- regulatory and compliance risks that relate to maintaining accurate information and control over sales and activities that may fall within the purview of the U.S. Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, its books and records provisions, or its anti-bribery provisions.

Any of these factors could significantly harm our potential international expansion and operations and, consequently, our results of operations.

European data collection is governed by restrictive regulations governing the use, processing and cross-border transfer of personal information.

In the event we decide to conduct clinical trials or continue to enroll subjects in our ongoing or future clinical trials in the European Union, we may be subject to additional privacy restrictions. The collection and use of personal health data in the European Union is governed by the provisions of the General Data Protection Regulation (EU) 2016/679, or GDPR. This directive imposes several requirements relating to the consent of the individuals to whom the personal data relates, the information provided to the individuals, notification of data processing obligations to the competent national data protection authorities and the security and confidentiality of

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the personal data. The GDPR also imposes strict rules on the transfer of personal data out of the European Union to the United States. Failure to comply with the requirements of the Data Protection Directive, which governs the collection and use of personal health data in the European Union, the GDPR, and the related national data protection laws of the European Union Member States may result in fines and other administrative penalties. The GDPR introduced new data protection requirements in the European Union and substantial fines for breaches of the data protection rules. The GDPR regulations may impose additional responsibility and liability in relation to personal data that we process and we may be required to put in place additional mechanisms ensuring compliance with these and/or new data protection rules. This may be onerous and adversely affect our business, financial condition, prospects and results of operations.

We are subject to the U.K. Bribery Act 2010, or the Bribery Act, the FCPA and other anti-corruption laws, as well as export control laws, import and customs laws, trade and economic sanctions laws and other laws governing our operations.

Our operations are subject to anti-corruption laws, including the Bribery Act, the FCPA, the U.S. domestic bribery statute contained in 18 U.S.C. §201, the U.S. Travel Act, and other anti-corruption laws that apply in countries where we do business. The Bribery Act, the FCPA and these other laws generally prohibit us and our employees and intermediaries from authorizing, promising, offering, or providing, directly or indirectly, improper or prohibited payments, or anything else of value, to government officials or other persons to obtain or retain business or gain some other business advantage. Under the Bribery Act, we may also be liable for failing to prevent a person associated with us from committing a bribery offense. In the future, we and our strategic partners may operate in jurisdictions that pose a high risk of potential Bribery Act or FCPA violations, and we may participate in collaborations and relationships with third parties whose corrupt or illegal activities could potentially subject us to liability under the Bribery Act, FCPA or local anti-corruption laws, even if we do not explicitly authorize or have actual knowledge of such activities. In addition, we cannot predict the nature, scope or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted.

We are also subject to other laws and regulations governing our international operations, including regulations administered by the governments of the United Kingdom and the United States, and authorities in the European Union, including applicable export control regulations, economic sanctions and embargoes on certain countries and persons, anti-money laundering laws, import and customs requirements and currency exchange regulations, collectively referred to as the Trade Control laws.

There is no assurance that we will be completely effective in ensuring our compliance with all applicable anti-corruption laws, including the Bribery Act, the FCPA or other legal requirements, including Trade Control laws. If we are not in compliance with the Bribery Act, the FCPA and other anti-corruption laws or Trade Control laws, we may be subject to criminal and civil penalties, disgorgement and other sanctions and remedial measures, and legal expenses, which could have an adverse impact on our business, financial condition, results of operations and liquidity. Likewise, any investigation of any potential violations of the Bribery Act, the FCPA, other anti-corruption laws or Trade Control laws by United Kingdom, United States or other authorities could also have an adverse impact on our reputation, our business, results of operations and financial condition.

The United Kingdom's withdrawal from the European Union may have a negative effect on global economic conditions, financial markets and our business, which could reduce the price of our ADSs.

On June 23, 2016, the United Kingdom held a referendum in which a majority of the eligible members of the electorate voted for the United Kingdom to leave the European Union. The United Kingdom's withdrawal from the European Union is commonly referred to as Brexit. In October 2019, a withdrawal agreement, or the Withdrawal Agreement, setting out the terms of the United Kingdom's exit from the European Union, and a political declaration on the framework for the future relationship between the United Kingdom and European Union was agreed between the UK and EU governments. Under the terms of the EU Withdrawal Agreement, the

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United Kingdom withdrew from membership of the European Union on 31 January 2020 and entered into a ‘transition period’ which is due to expire on 31 December 2020, or the Transition Period. During the Transition Period, the majority of rights and obligations associated with membership of the European Union continue to apply to the United Kingdom. The UK Government’s intention is to negotiate a trade agreement with the European Union during the Transition Period, but there is no guarantee that the terms of a trading agreement will be ratified by the UK Government or the European Union prior to the end of the transition period. On 12 June 2020, the UK Government announced that it would not seek to extend the transition period. As a result, the trading relationship between the United Kingdom and the European Union will be governed by WTO rules from 31 December 2020 unless a trading arrangement is agreed and ratified by both parties before that date.

These developments have had and may continue to have a significant adverse effect on global economic conditions and the stability of global financial markets, and could significantly reduce global market liquidity and restrict the ability of key market participants to operate in certain financial markets. In particular, it could also lead to a period of considerable uncertainty in relation to the U.K. financial and banking markets, as well as on the regulatory process in the United Kingdom and Europe. As a result of this uncertainty, global financial markets could experience significant volatility, which could adversely affect the market price of our ADSs. Asset valuations, currency exchange rates and credit ratings may also be subject to increased market volatility.

We may also face new regulatory costs and challenges that could have an adverse effect on our operations. Depending on the terms of the trading agreement to be negotiated between the United Kingdom and the European Union, the United Kingdom could lose the benefits of global trade agreements negotiated by the European Union on behalf of its members, which may result in increased trade barriers that could make our doing business in Europe more difficult. In addition, currency exchange rates in the pound sterling and the euro with respect to each other and the U.S. dollar have already been adversely affected by Brexit. Furthermore, at present, there are no indications of the effect Brexit will have on the pathway to obtaining marketing approval for any of our Wholly Owned product candidates in the United Kingdom, or what, if any, role the EMA may have in the approval process.

Risks Related to Our Equity Securities and ADSs

We do not know whether an active, liquid and orderly trading market will develop for our ADSs or what the market price of our ADSs will be. As a result, it may be difficult for you to sell your ADSs.

While our ordinary shares have traded on the LSE since 2015, the ADSs registered hereunder constitute the first opportunity to purchase our ADSs in the United States, and no public market has previously existed for our ADSs or ordinary shares in the United States. We intend to apply to have our ADSs listed on Nasdaq, and we expect our ADSs to be quoted on Nasdaq, subject to completion of customary procedures in the United States. Any delay in the commencement of trading of the ADSs on Nasdaq would impair the liquidity of the market for the ADSs and make it more difficult for holders to sell the ADSs. If the ADSs are listed and quoted on Nasdaq, there can be no assurance that an active trading market for the ADSs will develop or be sustained after registration is completed.

The market price of our ADSs may be highly volatile, and you may not be able to resell your ADSs at or above the price that you pay for them.

The market price of our ADSs is likely to be volatile. The stock market in general, and the market for biopharmaceutical companies in particular, has experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, you may not be able to sell your ADSs at or above the purchase price. The market price for our ADSs may be influenced by many factors, including:

- adverse results or delays in our preclinical studies or clinical trials;

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- reports of AEs or other negative results in clinical trials of third parties' product candidates that target our Wholly Owned or our Founded Entities' product candidates' target indications;
- an inability for us to obtain additional funding on reasonable terms or at all;
- any delay in filing an IND, BLA or NDA for our Wholly Owned or our Founded Entities' product candidates and any adverse development or perceived adverse development with respect to the FDA's review of that IND, BLA or NDA;
- failure to develop successfully and commercialize our Wholly Owned or our Founded Entities' product candidates;
- announcements we make regarding our current product candidates, acquisition of potential new product candidates and companies and/or in-licensing;
- failure to maintain our or our Founded Entities' existing license arrangements or enter into new licensing and collaboration agreements;
- failure by us, our Founded Entities or our licensors to prosecute, maintain or enforce our intellectual property rights;
- changes in laws or regulations applicable to future products;
- inability to obtain adequate clinical or commercial supply for our Wholly Owned or our Founded Entities' product candidates or the inability to do so at acceptable prices;
- adverse regulatory decisions, including failure to reach agreement with applicable regulatory authorities on the design or scope of our planned clinical trials;
- failure to obtain and maintain regulatory exclusivity for our Wholly Owned or our Founded Entities' product candidates;
- regulatory approval or commercialization of new products or other methods of treating our target disease indications by our competitors;
- failure to meet or exceed financial projections we may provide to the public or to the investment community;
- publication of research reports or comments by securities or industry analysts;
- the perception of the pharmaceutical and biotechnology industries by the public, legislatures, regulators and the investment community;
- announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us, our Founded Entities our strategic collaboration partners or our competitors;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our or our Founded Entities' ability to obtain patent protection for our technologies;
- additions or departures of our key scientific or management personnel;
- significant lawsuits, including patent or shareholder litigation, against us;
- changes in the market valuations of similar companies;
- adverse developments relating to any of the above or additional factors with respect to our Founded Entities;
- sales or potential sales of substantial amounts of our ADSs; and
- trading volume of our ADSs.

In addition, companies trading in the stock market in general, and Nasdaq, in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating

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performance of these companies. Broad market and industry factors may negatively affect the market price of our ADSs, regardless of our actual operating performance.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our ADS price and trading volume could decline.

The trading market for our ADSs and ordinary shares depends in part on the research and reports that securities or industry analysts publish about us or our business. If no or few securities or industry analysts cover our company, the trading price for our ADSs and ordinary shares would be negatively impacted. If one or more of the analysts who covers us downgrades our equity securities or publishes incorrect or unfavorable research about our business, the price of our ordinary shares and ADSs would likely decline. If one or more of these analysts ceases coverage of our company or fails to publish reports on us regularly, or downgrades our securities, demand for our ordinary shares and ADSs could decrease, which could cause the price of our ordinary shares and ADSs or their trading volume to decline.

Future sales, or the possibility of future sales, of a substantial number of our securities could adversely affect the price of the shares and dilute shareholders.

Sales of a substantial number of our ADSs in the public market could occur at any time, subject to certain restrictions described below. If our existing shareholders sell, or indicate an intent to sell, substantial amounts of our securities in the public market, the trading price of the ADSs could decline significantly and could decline below the original purchase price. As of June 30, 2020, we had 285,512,461 outstanding ordinary shares. Ordinary shares subject to outstanding options under our equity incentive plans and the ordinary shares reserved for future issuance under our equity incentive plans will become eligible for sale in the public market in the future, subject to certain legal and contractual limitations.

Holder of ADSs are not treated as holders of our ordinary shares.

After purchasing an ADS, you will become a holder of ADSs with underlying ordinary shares in a company incorporated under English law. Holders of ADSs are not treated as holders of our ordinary shares, unless they withdraw the ordinary shares underlying their ADSs in accordance with the deposit agreement and applicable laws and regulations. The depositary is the holder of the ordinary shares underlying the ADSs. Holders of ADSs therefore do not have any rights as holders of our ordinary shares, other than the rights that they have pursuant to the deposit agreement. See “Description of American Depositary Shares.”

Holder of ADSs may be subject to limitations on the transfer of their ADSs and the withdrawal of the underlying ordinary shares.

ADSs are transferable on the books of the depositary. However, the depositary may close its books at any time or from time to time when it deems expedient in connection with the performance of its duties. The depositary may refuse to deliver, transfer or register transfers of ADSs generally when our books or the books of the depositary are closed, or at any time if we or the depositary think it is advisable to do so because of any requirement of law, government or governmental body, or under any provision of the deposit agreement, or for any other reason, subject to the right of ADS holders to cancel their ADSs and withdraw the underlying ordinary shares. Temporary delays in the cancellation of your ADSs and withdrawal of the underlying ordinary shares may arise because the depositary has closed its transfer books or we have closed our transfer books, the transfer of ordinary shares is blocked to permit voting at a shareholders’ meeting or we are paying a dividend on our ordinary shares. In addition, ADS holders may not be able to cancel their ADSs and withdraw the underlying ordinary shares when they owe money for fees, taxes and similar charges and when it is necessary to prohibit withdrawals in order to comply with any laws or governmental regulations that apply to ADSs or to the withdrawal of ordinary shares or other deposited securities. See “Description of American Depositary Shares.”

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ADSs holders may not be entitled to a jury trial with respect to claims arising under the deposit agreement, which could result in less favorable outcomes to the plaintiff(s) in any such action.

The deposit agreement governing the ADSs representing our ordinary shares provides that, to the fullest extent permitted by law, holders and beneficial owners of ADSs irrevocably waive the right to a jury trial of any claim they may have against us or the depository arising out of or relating to the ADSs or the deposit agreement.

If this jury trial waiver provision is not permitted by applicable law, an action could proceed under the terms of the deposit agreement with a jury trial. If we or the depository opposed a jury trial demand based on the waiver, the court would determine whether the waiver was enforceable based on the facts and circumstances of that case in accordance with the applicable state and federal law. To our knowledge, the enforceability of a contractual pre-dispute jury trial waiver in connection with claims arising under the federal securities laws has not been finally adjudicated by the United States Supreme Court. However, we believe that a contractual pre-dispute jury trial waiver provision is generally enforceable, including under the laws of the State of New York, which govern the deposit agreement, by a federal or state court in the City of New York, which has non-exclusive jurisdiction over matters arising under the deposit agreement. In determining whether to enforce a contractual pre-dispute jury trial waiver provision, courts will generally consider whether a party knowingly, intelligently and voluntarily waived the right to a jury trial. We believe that this is the case with respect to the deposit agreement and the ADSs. It is advisable that you consult legal counsel regarding the jury waiver provision before entering into the deposit agreement.

If you or any other holders or beneficial owners of ADSs bring a claim against us or the depository in connection with matters arising under the deposit agreement or the ADSs, including claims under federal securities laws, you or such other holder or beneficial owner may not be entitled to a jury trial with respect to such claims, which may have the effect of limiting and discouraging lawsuits against us and/or the depository. If a lawsuit is brought against us and/or the depository under the deposit agreement, it may be heard only by a judge or justice of the applicable trial court, which would be conducted according to different civil procedures and may result in different outcomes than a trial by jury would have had, including results that could be less favorable to the plaintiff(s) in any such action, depending on, among other things, the nature of the claims, the judge or justice hearing such claims, and the venue of the hearing.

No condition, stipulation or provision of the deposit agreement or ADSs serves as a waiver by any holder or beneficial owner of ADSs or by us or the depository of compliance with the U.S. federal securities laws and the rules and regulations promulgated thereunder.

One of our principal shareholders has a significant holding in the company which may give them influence in certain matters requiring approval by shareholders, including approval of significant corporate transactions in certain circumstances.

As of June 30, 2020, Invesco Asset Management Limited, or Invesco, held approximately 29 percent of our ordinary shares. Accordingly, Invesco may, as a practical matter, be able to influence certain matters requiring approval by shareholders, including approval of significant corporate transactions in certain circumstances. Such concentration of ownership may also have the effect of delaying or preventing any future proposed change in control of the Company. The trading price of the ordinary shares could be adversely affected if potential new investors are disinclined to invest in the Company because they perceive disadvantages to a large shareholding being concentrated in the hands of a single shareholder. The interests of Invesco and the investors that acquire ADSs may not be aligned. Invesco may make acquisitions of, or investments in, other businesses in the same sectors as us or our Founded Entities. These businesses may be, or may become, competitors of us or our Founded Entities. In addition, funds or other entities managed or advised by Invesco may be in direct competition with us or our Founded Entities on potential acquisitions of, or investments in, certain businesses. In addition, Invesco holds equity interests in certain of our Founded Entities where they may exert direct influence.

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You will not have the same voting rights as the holders of our ordinary shares and may not receive voting materials in time to be able to exercise your right to vote.

Except as described in this registration statement and the deposit agreement, holders of the ADSs will not be able to exercise voting rights attaching to the ordinary shares represented by the ADSs. Under the terms of the deposit agreement, holders of the ADSs may instruct the depository to vote the ordinary shares underlying their ADSs. Otherwise, holders of ADSs will not be able to exercise their right to vote unless they withdraw the ordinary shares underlying their ADSs to vote them in person or by proxy in accordance with applicable laws and regulations and our Articles of Association. Even so, ADS holders may not know about a meeting far enough in advance to withdraw those ordinary shares. If we ask for the instructions of holders of the ADSs, the depository, upon timely notice from us, will notify ADS holders of the upcoming vote and arrange to deliver our voting materials to them. Upon our request, the depository will mail to holders a shareholder meeting notice that contains, among other things, a statement as to the manner in which voting instructions may be given. We cannot guarantee that ADS holders will receive the voting materials in time to ensure that they can instruct the depository to vote the ordinary shares underlying their ADSs. A shareholder is only entitled to participate in, and vote at, the meeting of shareholders, provided that it holds our ordinary shares as of the record date set for such meeting and otherwise complies with our Articles of Association. In addition, the depository's liability to ADS holders for failing to execute voting instructions or for the manner of executing voting instructions is limited by the deposit agreement. As a result, holders of ADSs may not be able to exercise their right to give voting instructions or to vote in person or by proxy and they may not have any recourse against the depository or us if their ordinary shares are not voted as they have requested or if their shares cannot be voted.

You may not receive distributions on our ordinary shares represented by the ADSs or any value for them if it is illegal or impractical to make them available to holders of ADSs.

The depository for the ADSs has agreed to pay to you any cash dividends or other distributions it or the custodian receives on our ordinary shares or other deposited securities after deducting its fees and expenses. You will receive these distributions in proportion to the number of our ordinary shares your ADSs represent. However, in accordance with the limitations set forth in the deposit agreement, it may be unlawful or impractical to make a distribution available to holders of ADSs. We have no obligation to take any other action to permit distribution on the ADSs, ordinary shares, rights or anything else to holders of the ADSs. This means that you may not receive the distributions we make on our ordinary shares or any value from them if it is unlawful or impractical to make them available to you. These restrictions may have an adverse effect on the value of your ADSs.

Because we do not have immediate plans to pay any cash dividends on our ADSs, capital appreciation, if any, may be your sole source of gains and you may never receive a return on your investment.

Under current English law, a company's accumulated realized profits must exceed its accumulated realized losses (on a non-consolidated basis) before dividends can be declared and paid. Therefore, we must have sufficient distributable profits before declaring and paying a dividend. We have not paid dividends in the past on our ordinary shares. We have not announced any immediate plans to pay any cash dividends. As a result, capital appreciation, if any, on our ADSs will be your sole source of gains for the foreseeable future, and you would suffer a loss on your investment if you were unable to sell your ADSs at or above the price that you initially paid for them. Investors seeking cash dividends should not purchase our ADSs.

We are an "emerging growth company," and there are reduced disclosure requirements applicable to emerging growth companies.

We are an "emerging growth company" as defined in the SEC's rules and regulations and we will remain an emerging growth company until the earlier to occur of (1) the last day of 2024, (2) the last day of the fiscal year in which we have total annual gross revenues of at least \$1.07 billion, (3) the last day of the fiscal year in which we are deemed to be a "large accelerated filer," under the rules of the U.S. Securities and Exchange Commission,

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or SEC, which means the market value of our equity securities that is held by non-affiliates exceeds \$700 million as of the prior June 30th, and (4) the date on which we have issued more than \$1.0 billion in non-convertible debt during the prior three-year period. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, or Section 404;
- not being required to comply with any requirement that has or may be adopted by the Public Company Accounting Oversight Board, or PCAOB, regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- being permitted to provide only two years of audited financial statements in this initial registration statement, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- reduced disclosure obligations regarding executive compensation; and
- an exemption from the requirement to seek nonbinding advisory votes on executive compensation or golden parachute arrangements.

We may choose to take advantage of some, but not all, of the available exemptions. We have taken advantage of reduced reporting burdens in this registration statement. In particular, we have not included all of the executive compensation information that would be required if we were not an emerging growth company. We cannot predict whether investors will find our ADSs less attractive if we rely on certain or all of these exemptions. If some investors find our ADSs less attractive as a result, there may be a less active trading market for our ADSs and our ADS price may be more volatile.

In addition, the JOBS Act provides that an emerging growth company may take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We are considering whether we will take advantage of the extended transition period for complying with new or revised accounting standards. Since IFRS makes no distinction between public and private companies for purposes of compliance with new or revised accounting standards, the requirements for our compliance as a private company and as a public company are the same.

Even after we no longer qualify as an emerging growth company, we may still qualify as a "smaller reporting company" if the market value of our ordinary shares held by non-affiliates is below \$250 million (or \$700 million if our annual revenue is less than \$100 million) as of June 30 in any given year, which would allow us to take advantage of many of the same exemptions from disclosure requirements, including reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements.

We are not, and do not intend to become, regulated as an "investment company" under the Investment Company Act of 1940, as amended, or the 1940 Act and if we were deemed an "investment company" under the 1940 Act, applicable restrictions could make it impractical for us to continue our business as contemplated and could have a material adverse effect on our business.

The 1940 Act and the rules thereunder contain detailed parameters for the organization and operation of investment companies. Among other things, the 1940 Act and the rules thereunder limit or prohibit transactions with affiliates, impose limitations on the issuance of debt and equity securities and impose certain governance requirements. We have not been and do not intend to become regulated as an investment company, and we intend to conduct our activities so that we will not be deemed to be an investment company under the 1940 Act. In order

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to ensure that we are not deemed to be an investment company, we may be limited in the assets that we may continue to own and, further, may need to dispose of or acquire certain assets at such times or on such terms as may be less favorable to us than in the absence of such requirement. If anything were to happen which would cause us to be deemed to be an investment company under the 1940 Act (such as significant changes in the value of our Founded Entities or a change in circumstance that results in a reclassification of our interests in our Founded Entities for purposes of the 1940 Act), the requirements imposed by the 1940 Act could make it impractical for us to continue our business as currently conducted, which would materially adversely affect our business, results of operations and financial condition. In addition, if we were to become inadvertently subject to the 1940 Act, any violation of the 1940 Act could subject us to material adverse consequences, including potentially significant regulatory penalties and the possibility that certain of our contracts could be deemed unenforceable.

As a foreign private issuer, we are exempt from a number of rules under the U.S. securities laws and are permitted to file less information with the SEC than a U.S. company. This may limit the information available to holders of ADSs or our ordinary shares.

We are a “foreign private issuer,” as defined in the SEC’s rules and regulations and, consequently, we are not subject to all of the disclosure requirements applicable to public companies organized within the United States. For example, we are exempt from certain rules under the Exchange Act, that regulate disclosure obligations and procedural requirements related to the solicitation of proxies, consents or authorizations applicable to a security registered under the Exchange Act, including the United States proxy rules under Section 14 of the Exchange Act. In addition, our officers and directors are exempt from the reporting and “short-swing” profit recovery provisions of Section 16 of the Exchange Act and related rules with respect to their purchases and sales of our securities. Moreover, while we currently make annual and semi-annual filings with respect to our listing on the LSE, we will not be required to file periodic reports and financial statements with the SEC as frequently or as promptly as U.S. domestic issuers and will not be required to file quarterly reports on Form 10-Q or current reports on Form 8-K under the Exchange Act. Accordingly, there will be less publicly available information concerning our company than there would be if we were not a foreign private issuer.

As a foreign private issuer, we are permitted to adopt certain home country practices in relation to corporate governance matters that differ significantly from Nasdaq corporate governance listing standards. These practices may afford less protection to shareholders than they would enjoy if we complied fully with corporate governance listing standards.

As a foreign private issuer listed on Nasdaq, we will be subject to corporate governance listing standards. However, rules permit a foreign private issuer like us to follow the corporate governance practices of its home country. Certain corporate governance practices in the United Kingdom, which is our home country, may differ significantly from corporate governance listing standards. For example, neither the corporate laws of the United Kingdom nor our articles of association require a majority of our directors to be independent and we could include non-independent directors as members of our nomination and remuneration committee, though a majority is required, and our independent directors would not necessarily hold regularly scheduled meetings at which only independent directors are present. Currently, we intend to follow home country practice to the maximum extent possible. Therefore, our shareholders may be afforded less protection than they otherwise would have under corporate governance listing standards applicable to U.S. domestic issuers. See “Management.”

We may lose our foreign private issuer status in the future, which could result in significant additional cost and expense.

While we currently qualify as a foreign private issuer, the determination of foreign private issuer status is made annually on the last business day of an issuer’s most recently completed second fiscal quarter and, accordingly, the next determination will be made with respect to us on June 30, 2021.

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In the future, we would lose our foreign private issuer status if we fail to meet the requirements necessary to maintain our foreign private issuer status as of the relevant determination date. For example, if more than 50 percent of our securities are held by U.S. residents and more than 50 percent of the members of our executive committee or members of our board of directors are residents or citizens of the United States, we could lose our foreign private issuer status.

The regulatory and compliance costs to us under U.S. securities laws as a U.S. domestic issuer may be significantly more than costs we incur as a foreign private issuer. If we are not a foreign private issuer, we will be required to file periodic reports and registration statements on U.S. domestic issuer forms with the SEC, which are more detailed and extensive in certain respects than the forms available to a foreign private issuer. We would be required under current SEC rules to prepare our financial statements in accordance with U.S. GAAP, rather than IFRS, and modify certain of our policies to comply with corporate governance practices associated with U.S. domestic issuers. Such conversion of our financial statements to U.S. GAAP will involve significant time and cost. In addition, we may lose our ability to rely upon exemptions from certain corporate governance requirements on U.S. stock exchanges that are available to foreign private issuers such as the ones described above and exemptions from procedural requirements related to the solicitation of proxies.

We will incur increased costs as a result of operating as a U.S.-listed public company, and our management will be required to devote substantial time to new compliance initiatives.

As a U.S. public company, and particularly after we are no longer an emerging growth company, we will incur significant legal, accounting and other expenses that we did not incur as a public company listed on the LSE. In addition, the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, and rules subsequently implemented by the SEC and Nasdaq have imposed various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance.

Pursuant to Section 404, we will be required to furnish a report by our management on our internal control over financial reporting, including an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. However, while we remain an emerging growth company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk we will not be able to conclude within the prescribed timeframe that our internal control over financial reporting is effective as required by Section 404. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

If we are unable to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud. As a result, shareholders could lose confidence in our financial and other public reporting, which would harm our business and the trading price of our ADSs.

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, are designed to prevent fraud. Any failure to

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implement required new or improved controls, or difficulties encountered in their implementation could cause us to fail to meet our reporting obligations. In addition, any testing by us conducted in connection with Section 404, or any subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our ADSs.

Our management will be required to assess the effectiveness of these controls annually. However, for as long as we are an emerging growth company, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal controls over financial reporting pursuant to Section 404. We could be an emerging growth company for up to five years. An independent assessment of the effectiveness of our internal controls over financial reporting could detect problems that our management's assessment might not. Undetected material weaknesses in our internal controls over financial reporting could lead to financial statement restatements and require us to incur the expense of remediation.

In connection with the audit of our consolidated financial statements in accordance with the standards of the PCAOB and U.S. securities laws, a material weakness in our internal control over financial reporting was found to exist. If we fail to implement and maintain effective internal control over financial reporting, we may be unable to accurately report our results of operations, meet our reporting obligations or prevent fraud.

We have been a public company on the LSE with limited requirements to implement and test internal controls under a UK framework. As such, we have not been subject to the internal control over financial reporting requirements of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, and the standards of the PCAOB and furthermore our independent registered public accounting firm has not conducted an audit of our internal control over financial reporting in accordance with such rules. As a U.S. public company, Section 404 of the Sarbanes-Oxley Act will require that our management assess our internal control over financial reporting and include a report of management on our internal control over financial reporting in our annual report on Form 20-F beginning with our second annual report. Although we have adhered to and will continue to adhere to all internal control requirements made relevant by the governance of the LSE, the requirements pertaining to the design and implementation of internal controls over financial reporting as contemplated under the Sarbanes-Oxley Act had not been considered in the production of financial statements for the years ended December 31, 2019, 2018 and 2017 for our annual report issued in the United Kingdom. In connection with the audits of our consolidated financial statements as of and for each of the years ended December 31, 2019, 2018 and 2017 conducted in connection with this registration statement, we and our independent registered public accounting firm identified a material weakness in our internal control over financial reporting. A material weakness is a deficiency, or combination of control deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis. The material weakness relates to several significant deficiencies that were identified which, in aggregate, rise to the level of a material weakness. These significant deficiencies relate to our process around accounting for costs attributed to individual projects, contract and consolidated review, segregation of duties, expense identification, allocation of employee stock compensation expense, and tax provision relating to underlying investments and related party identification. We have taken steps to remediate the material weakness, including increasing the depth and experience within our accounting and finance organization, designing and implementing improved processes and internal controls based on the COSO framework, and internally testing the effectiveness of our internal controls. As with any internal control framework, we cannot be certain that these efforts will be sufficient to remediate our material weaknesses, prevent future material weaknesses or significant deficiencies from occurring. If we are unable to successfully remediate our existing or any future material weaknesses in our internal control over financial reporting, or if we identify any additional material weaknesses, the accuracy and timing of our financial reporting may be adversely affected. In addition, investors could lose confidence in our reported financial information, and we could be subject to regulatory scrutiny and to litigation from shareholders, which could have a material adverse effect on our business and the price of our ADSs.

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Once we cease to be an “emerging growth company” as such term is defined in the JOBS Act, our independent registered public accounting firm must attest to and report on the effectiveness of our internal control over financial reporting. Our independent registered public accounting firm, after conducting its own independent testing, may issue a report that is adverse if it is not satisfied with our internal controls or the level at which our controls are documented, designed, operated or reviewed, or if it interprets the relevant requirements differently from us. In addition, after we become a public company in the U.S., our reporting obligations may place a significant strain on our management, operational and financial resources and systems for the foreseeable future. We may be unable to timely complete our evaluation testing for internal control over financial reporting and any required remediation.

If we fail to achieve and maintain an effective internal control environment, we could suffer material misstatements in our financial statements and fail to meet our reporting obligations, which would likely cause investors to lose confidence in our reported financial information. This could in turn limit our access to capital markets, harm our results of operations, and lead to a decline in the trading price of our securities. Additionally, ineffective internal control over financial reporting could expose us to increased risk of fraud or misuse of corporate assets and subject us to potential delisting from the stock exchange on which we list, regulatory investigations and civil or criminal sanctions. We may also be required to restate our financial statements from prior periods.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

Upon completion of this registration, we will become subject to certain reporting requirements of the Exchange Act. Our disclosure controls and procedures are designed to reasonably assure that information required to be disclosed by us in reports we file or submit under the Exchange Act is accumulated and communicated to management, recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements or insufficient disclosures due to error or fraud may occur and not be detected.

Comprehensive tax reform legislation could adversely affect our business and financial condition.

On December 22, 2017, the Tax Act was signed into law. The Tax Act, among other things, contains significant changes to corporate taxation, including (i) reduction of the corporate tax rate from a top marginal rate of 35 percent to a flat rate of 21 percent, (ii) limitation of the tax deduction for interest expense to 30 percent of adjusted earnings (except for certain small businesses), (iii) limitation of the deduction for net operating losses to 80 percent of current year taxable income in respect of net operating losses generated during or after 2018 and elimination of net operating loss carrybacks, (iv) one-time taxation of offshore earnings at reduced rates regardless of whether they are repatriated, (v) immediate deductions for certain new investments instead of deductions for depreciation expense over time, and (vi) modifying or repealing many business deductions and credits. Any federal net operating loss incurred in 2018 and in future years may now be carried forward indefinitely pursuant to the Tax Act. It is uncertain if and to what extent various states will conform to the newly enacted federal tax law. We will continue to examine the impact the Tax Act may have on our business.

On March 27, 2020, the “Coronavirus Aid, Relief, and Economic Security Act” or the CARES Act was signed into law, which included certain changes in tax law intended to stimulate the U.S. economy in light of the COVID-19 coronavirus outbreak, including temporary beneficial changes to the treatment of net operating losses, interest deductibility limitations and payroll tax matters.

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We are treated as a U.S. domestic corporation for U.S. federal income tax purposes.

We are treated as a U.S. domestic corporation for U.S. federal income tax purposes under Section 7874(b) of the Internal Revenue Code of 1986, as amended, or the Code. As a result, we are subject to U.S. income tax on our worldwide income and any dividends paid by us to non-U.S. holders (as defined in the discussion under “Taxation in the United States—Tax Considerations for Non-U.S. Holders”) will be subject to U.S. federal income tax withholding at a 30 percent rate or such lower rate as provided in an applicable treaty. Furthermore, PureTech Health plc is also resident for tax purposes in the U.K. and subject to U.K. corporation tax on its worldwide income and gains. Consequently, we may be liable for both U.S. and U.K. income tax, which could have a material adverse effect on our financial condition and results of operations.

This discussion of certain U.S. federal income tax risks is subject in its entirety to the summaries set forth in “Taxation in the United Kingdom” and “Taxation in the United States.”

Our ability to use our net operating losses to offset future taxable income may be subject to certain limitations.

As of December 31, 2019, we had U.S. federal and state net operating loss carryforwards, or NOLs, of approximately \$243.0 million due to prior period losses, which, subject to the following discussion, are generally available to be carried forward to offset a portion of our future taxable income, if any, until such NOLs are used or expire. In general, under Section 382 of the Code, a corporation that undergoes an “ownership change” is subject to limitations on its ability to utilize its NOLs to offset future taxable income. Similar rules may apply under state tax laws. Our existing NOLs may be subject to limitations arising from previous ownership changes, and if we undergo an ownership change, our ability to utilize NOLs could be further limited by Section 382 of the Code. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the Code. Additionally, we may no longer be able to utilize losses of our Founded Entities that have been deconsolidated or that will deconsolidate in the future. Furthermore, our ability to utilize NOLs of companies that we have acquired or may acquire in the future may be subject to limitations. In addition, under the Tax Act, the amount of post 2017 NOLs that we are permitted to deduct in any taxable year is limited to 80 percent of our taxable income in such year, where taxable income is determined without regard to the NOL deduction itself. Federal NOLs generated after December 31, 2017 are not subject to expiration and generally may not be carried back to prior taxable years, except that under the CARES Act, NOLs generated in 2018, 2019 and 2020 may be carried back five taxable years. There is also a risk that due to changes under the Tax Act, regulatory changes, such as suspensions on the use of NOLs, or other unforeseen reasons, our existing NOLs could be unavailable to offset future income tax liabilities. For these reasons, we may not be able to realize a tax benefit from the use of our NOLs.

We may be unable to use net operating loss and tax credit carryforwards and certain built-in losses to reduce future U.K. tax liabilities.

As a U.K. incorporated and tax resident entity, PureTech Health plc is subject to U.K. corporate taxation on its tax-adjusted trading profits. Due to the nature of our business, PureTech Health plc has generated losses since inception and therefore we have not paid any U.K. corporation tax. Subject to numerous utilization criteria and restrictions (including those that limit the percentage of profits that can be reduced by carried forward losses and those that can restrict the use of carried forward losses where there is a change of ownership of more than half the ordinary shares of the company and a major change in the nature, conduct or scale of the trade), we expect these to be eligible for carry forward and utilization against future U.K. operating profits.

Future changes to tax laws could materially adversely affect our company and reduce net returns to our shareholders.

The tax treatment of the company is subject to changes in tax laws, regulations and treaties, or the interpretation thereof, tax policy initiatives and reforms under consideration and the practices of tax authorities in jurisdictions

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in which we operate, as well as tax policy initiatives and reforms related to the Organisation for Economic Co-Operation and Development's, or OECD, Base Erosion and Profit Shifting, or BEPS, Project, the European Commission's state aid investigations and other initiatives. Such changes may include (but are not limited to) the taxation of operating income, investment income, dividends received or (in the specific context of withholding tax) dividends paid. We are unable to predict what tax reform may be proposed or enacted in the future or what effect such changes would have on our business, but such changes, to the extent they are brought into tax legislation, regulations, policies or practices, could affect our financial position and overall or effective tax rates in the future in countries where we have operations, reduce post-tax returns to our shareholders, and increase the complexity, burden and cost of tax compliance.

Tax authorities may disagree with our positions and conclusions regarding certain tax positions, resulting in unanticipated costs, taxes or non-realization of expected benefits.

A tax authority may disagree with tax positions that we have taken, which could result in increased tax liabilities. For example, HM Revenue & Customs, or HMRC, the Internal Revenue Service or another tax authority could challenge our allocation of income by tax jurisdiction and the amounts paid between certain of our Founded Entities pursuant to our intercompany arrangements and transfer pricing policies, including amounts paid with respect to our intellectual property development. Similarly, a tax authority could assert that we are subject to tax in a jurisdiction where we believe we have not established a taxable connection, often referred to as a "permanent establishment" under international tax treaties, and such an assertion, if successful, could increase our expected tax liability in one or more jurisdictions. A tax authority may take the position that material income tax liabilities, interest and penalties are payable by us, in which case, we expect that we might contest such assessment. Contesting such an assessment may be lengthy and costly and if we were unsuccessful in disputing the assessment, the implications could increase our anticipated effective tax rate, where applicable.

Shareholder protections found in provisions under the U.K. City Code on Takeovers and Mergers, or the Takeover Code, will not apply if our securities are no longer admitted to trading on a regulated market or a multilateral trading facility in the United Kingdom or on any stock exchange in the Channel Islands or the Isle of Man and our place of management and control is considered to change to outside the United Kingdom.

We are registered as a public limited company incorporated in England and Wales and have our ordinary shares admitted to trading on a regulated market in the United Kingdom (being the main market of the LSE). Accordingly, we are currently subject to the Takeover Code and, as a result, our shareholders are entitled to the benefit of certain takeover offer protections provided under the Takeover Code. The Takeover Code provides a framework within which takeovers of companies are regulated and conducted. If, at the time of a takeover offer, we have de-listed from the main market of the LSE (and do not maintain a listing of securities on any other regulated market or a multilateral trading facility in the United Kingdom or on any stock exchange in the Channel Islands or the Isle of Man) and the Panel on Takeovers and Mergers determine that we do not have our place of central management and control in the United Kingdom, then the Takeover Code may not apply to us and our shareholders would not be entitled to the benefit of the various protections that the Takeover Code affords. In particular, we would not be subject to the rules regarding mandatory takeover bids. The following is a brief summary of some of the most important rules of the Takeover Code:

- when any person acquires, whether by a series of transactions over a period of time or not, an interest in shares which (taken together with shares already held by that person and an interest in shares held or acquired by persons acting in concert with him or her) carry 30 percent or more of the voting rights of a company that is subject to the Takeover Code, that person is generally required to make a mandatory offer to all the holders of any class of equity share capital or other class of transferable securities carrying voting rights in that company to acquire the balance of their interests in the company;
- when any person who, together with persons acting in concert with him or her, is interested in shares representing not less than 30 percent but does not hold more than 50 percent of the voting rights of a company that is subject to the Takeover Code, and such person, or any person acting in concert with

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him or her, acquires an additional interest in shares which increases the percentage of shares carrying voting rights in which he or she is interested, then such person is generally required to make a mandatory offer to all the holders of any class of equity share capital or other class of transferable securities carrying voting rights of that company to acquire the balance of their interests in the company;

- a mandatory offer triggered in the circumstances described in the two paragraphs above must be in cash (or be accompanied by a cash alternative) and at not less than the highest price paid within the preceding 12 months to acquire any interest in shares in the company by the person required to make the offer or any person acting in concert with him or her;
- in relation to a voluntary offer (i.e. any offer which is not a mandatory offer), when interests in shares representing 10 percent or more of the shares of a class have been acquired for cash by an offeror (i.e., a bidder) and any person acting in concert with it in the offer period and the previous 12 months, the offer must be in cash or include a cash alternative for all shareholders of that class at not less than the highest price paid for any interest in shares of that class by the offeror and by any person acting in concert with it in that period. Further, if an offeror acquires for cash any interest in shares during the offer period, a cash alternative must be made available at not less than the highest price paid for any interest in the shares of that class;
- if the offeror acquires an interest in shares in an offeree company (i.e., a target) at a price higher than the value of the offer, the offer must be increased to not less than the highest price paid for the interest in shares so acquired;
- the offeree company must obtain competent advice as to whether the terms of any offer are fair and reasonable and the substance of such advice must be made known to all the shareholders, together with the opinion of the board of directors of the offeree company;
- special or favorable deals for selected shareholders are not permitted, except in certain circumstances where independent shareholder approval is given and the arrangements are regarded as fair and reasonable in the opinion of the financial adviser to the offeree;
- all shareholders must be given the same information;
- each document published in connection with an offer by or on behalf of the offeror or offeree must state that the directors of the offeror or the offeree, as the case may be, accept responsibility for the information contained therein;
- profit forecasts, quantified financial benefits statements and asset valuations must be made to specified standards and must be reported on by professional advisers;
- misleading, inaccurate or unsubstantiated statements made in documents or to the media must be publicly corrected immediately;
- actions during the course of an offer by the offeree company, which might frustrate the offer are generally prohibited unless shareholders approve these plans. Frustrating actions would include, for example, lengthening the notice period for directors under their service contract or agreeing to sell off material parts of the target group;
- stringent and detailed requirements are laid down for the disclosure of dealings in relevant securities during an offer, including the prompt disclosure of positions and dealing in relevant securities by the parties to an offer and any person who is interested (directly or indirectly) in 1 percent or more of any class of relevant securities; and
- employees of both the offeror and the offeree company and the trustees of the offeree company's pension scheme must be informed about an offer. In addition, the offeree company's employee representatives and pension scheme trustees have the right to have a separate opinion on the effects of the offer on employment appended to the offeree board of directors' circular or published on a website.

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The rights of our shareholders may differ from the rights typically offered to shareholders of a U.S. corporation.

We are incorporated under the laws of England and Wales. The rights of holders of ordinary shares and, therefore, certain of the rights of holders of ADSs, are governed by English law, including the provisions of the U.K. Companies Act, or the Companies Act, and by our Articles of Association. These rights differ in certain respects from the rights of shareholders in typical U.S. corporations. See “Description of Share Capital and Articles of Association—Differences in Corporate Law” in this registration statement for a description of the principal differences between the provisions of the Companies Act applicable to us and, for example, the Delaware General Corporation Law relating to shareholders’ rights and protections.

The principal differences include the following:

- under English law and our articles of association, each shareholder present at a meeting has only one vote when voting by a show of hands unless demand is made for a vote on a poll, in which case each holder gets one vote per share owned. The Company usually conducts all of its shareholder votes on a poll. Under U.S. law, each shareholder typically is entitled to one vote per share at all meetings;
- under English law, it is only on a poll that the number of shares determines the number of votes a holder may cast. You should be aware, however, that the voting rights of ADSs are also governed by the provisions of a deposit agreement with our depositary bank;
- under English law, subject to certain exceptions and disapplications, each shareholder generally has preemptive rights to subscribe on a proportionate basis to any issuance of ordinary shares or rights to subscribe for, or to convert securities into, ordinary shares for cash. Under U.S. law, shareholders generally do not have preemptive rights unless specifically granted in the certificate of incorporation or otherwise;
- under English law and our articles of association, certain matters require the approval of 75 percent of the shareholders who vote (in person or by proxy) on the relevant resolution (or on a poll of shareholders representing 75 percent of the ordinary shares voting (in person or by proxy)), including amendments to the articles of association. This may make it more difficult for us to complete certain corporate transactions deemed advisable by our board of directors. Under U.S. law, generally only majority shareholder approval is required to amend the certificate of incorporation or to approve other significant transactions;
- in the United Kingdom, takeovers may be structured as takeover offers or as schemes of arrangement. Under English law, for so long as we continue to be subject to the Takeover Code, a bidder seeking to acquire us by means of a takeover offer would need to make an offer for all of our outstanding ordinary shares/ADSs. If acceptances are not received for 90 percent or more of the ordinary shares/ADSs under the offer, under English law, the bidder cannot complete a “squeeze out” to obtain 100 percent control of us. Accordingly, acceptances of 90 percent of our outstanding ordinary shares/ADSs will likely be a condition in any takeover offer to acquire us, not 50 percent as is more common in tender offers for corporations organized under Delaware law. By contrast, a scheme of arrangement, the successful completion of which would result in a bidder obtaining 100 percent control of us, requires the approval of a majority of shareholders voting at the meeting and representing 75 percent of the ordinary shares voting for approval;
- under English law and our articles of association, shareholders and other persons whom we know or have reasonable cause to believe are, or have been, interested in our shares may be required to disclose information regarding their interests in our shares upon our request, and the failure to provide the required information could result in the loss or restriction of rights attaching to the shares, including prohibitions on certain transfers of the shares, withholding of dividends and loss of voting rights. Comparable provisions generally do not exist under U.S. law; and
- the quorum requirement for a shareholders’ meeting is a minimum of two shareholders entitled to vote at the meeting and present in person or by proxy or, in the case of a shareholder which is a corporation,

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represented by a duly authorized officer. Under U.S. law, a majority of the shares eligible to vote must generally be present (in person or by proxy) at a shareholders' meeting in order to constitute a quorum. The minimum number of shares required for a quorum can be reduced pursuant to a provision in a company's certificate of incorporation or bylaws, but typically not below one-third of the shares entitled to vote at the meeting.

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ITEM 4. INFORMATION ON THE COMPANY

A. HISTORY AND DEVELOPMENT OF THE COMPANY

We were incorporated and registered under the laws of England and Wales with the Registrar of Companies of England and Wales, United Kingdom in May 2015 as “PureTech Health plc.” Our predecessor entity, PureTech Health LLC, or our Predecessor Entity, commenced formal operations and began engaging in initial sourcing activities in 2004, raising its first financing round greater than \$5 million in the same year. The Predecessor Entity was acquired by PureTech Health plc on June 18, 2015 in a reorganization completed in connection with our initial public offering on the London Stock Exchange. The Predecessor Entity is now a wholly-owned subsidiary of PureTech Health plc. Our registered office is situated at 8th Floor, 20 Farringdon Street, London EC4A 4AB, United Kingdom, and our telephone number is +(1) 617 482 2333. Our U.S. operations are conducted by our wholly-owned subsidiary PureTech Health LLC, a Delaware limited liability company. Our ordinary shares have traded on the main market of the London Stock Exchange, since June 2015. Our agent for service of process in the United States is PureTech Health LLC located at 6 Tide Street, Suite 400, Boston, Massachusetts 02210 where our corporate headquarters and laboratories are located. Our website address is <http://puretechhealth.com>. The reference to our website is an inactive textual reference only and information contained in, or that can be accessed through, our website or any other website cited in this registration statement is not part of hereof.

Unless the context specifically indicates otherwise, references in this to our “Wholly Owned Programs” refer to LYT-100, LYT-200, LYT-210 and LYT-300 as well as our three discovery platforms, and “Wholly Owned product candidates” and “Wholly Owned Pipeline” refer to LYT-100, LYT-200, LYT-210 and LYT-300. References in this registration statement to our “Founded Entities” refer to the entities that we founded and in which we continue to hold equity. Our Founded Entities are comprised of our Controlled Founded Entities and our Non-Controlled Founded Entities. Anywhere our Founded Entities (or subsets thereof) are listed in this registration statement, we have ordered them by stage of development. References in this registration statement to our “Controlled Founded Entities” refer to Follica, Incorporated, Vedanta Biosciences, Inc., Sonde Health, Inc., Alivio Therapeutics, Inc. and Entrega, Inc. References in this registration statement to our “Non-Controlled Founded Entities” refer to Gelesis, Inc., Karuna Therapeutics, Inc., Akili Interactive Labs, Inc., Vor Biopharma Inc., and, for all periods prior to December 18, 2019, resTORbio, Inc. We formed each of our Founded Entities and have been involved in development efforts in varying degrees. In the case of each of our Controlled Founded Entities, we continue to maintain majority voting control. With respect to our Non-Controlled Founded Entities, we may benefit from appreciation in our investment as a shareholder of such companies. Additional information regarding the accounting treatment of our Founded Entities is included under the heading “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and in our consolidated financial statements included in this registration statement. All references to our parent entity refer to PureTech Health plc.

B. BUSINESS OVERVIEW

Overview

We are a clinical-stage biotechnology company dedicated to discovering, developing and commercializing highly differentiated medicines for devastating diseases, including inflammatory and immunological conditions, intractable cancers, lymphatic and gastrointestinal diseases and neurological and neuropsychological disorders, among others. The product candidates within our Wholly Owned Pipeline and the products and product candidates being developed by our Founded Entities were initiated by our experienced research and development team and our extensive network of scientists, clinicians and industry leaders. These products and product candidates are protected by a growing intellectual property portfolio of more than 600 patents and patent applications, of which more than 200 are issued.

We established the underlying programs and platforms that have resulted in 24 products and product candidates that are being advanced within our Wholly Owned Programs or by our Founded Entities. Of these products and product candidates, 12 are clinical-stage and two have been cleared by the U.S. Food and Drug Administration, or FDA, and granted marketing authorization in the European Economic Area, or EEA, and in other countries that recognize the CE Mark. Our Non-Controlled Founded Entities are advancing eight of these product

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candidates, including two that are expected to enter Phase 3/Pivotal studies, as well as two FDA-cleared products. Our Controlled Founded Entities are advancing nine of these product candidates, including one that is expected to enter a Phase 3 study and three that are in Phase 2 development, and we are advancing four of these product candidates within our Wholly Owned Pipeline. We and our Founded Entities have relationships with several pharmaceutical companies or their investment arms to advance some of the underlying programs and platforms.

All of these underlying programs and platforms were initially identified or discovered and then advanced by our team through key validation points based on our unique insights into the biology of the Brain, Immune and Gut, or BIG, systems and the interface between those systems, which we refer to as the BIG Axis. The architectural framework supporting BIG Axis cross-talk is built on evidence highlighting the presence of 70 percent of the entire immune cell population in the gut, approximately 500 million neurons innervating the gastrointestinal, or GI, tract, enteric neurons as part of the autonomic nervous system and key components such as the gut epithelial barrier, microbiome, metabolites and neurotransmitters that play key roles in protecting and influencing the immune system and central nervous system, or CNS.

We are led by a proven and seasoned management team of business leaders with significant experience in discovering and developing important new medicines, delivering them to market and maximizing shareholder value. Collectively, the members of our management team have overseen research and development of products supporting 23 regulatory approvals and have been in the C-suite of companies acquired for more than \$13 billion in the aggregate.

Our team, network and expertise in the BIG Axis enable us to identify and advance the latest scientific discoveries at the interface of the BIG systems. We begin by collaborating with a cross-disciplinary group of experienced clinicians and the world's leading experts in brain, immune and gut biology in a discovery process that breaks down specific diseases and comprehensively identifies, reviews and empirically tests unpublished scientific discoveries in a modality agnostic and unbiased way. Our model, which employs (1) this collaborative process leveraging our biological expertise in the BIG axis and our scientific network, (2) a disciplined approach to program advancement, and (3) a capital efficient approach to driving clinical developments and value creation, has enabled us to rapidly convert these findings into valuable therapeutic product candidates.

Historically, we have developed these programs and product candidates with strategic allies, including equity partners who helped us to advance those programs via our Founded Entities. As these programs have succeeded and our resources have grown, we have increasingly focused on our Wholly Owned Programs. Our Wholly Owned Programs are designed to harness key immunological and lymphatic system mechanisms. They currently consist of LYT-100, a clinical-stage product candidate we are pursuing for conditions involving inflammation and fibrosis and disorders of lymphatic flow, LYT-200 and LYT-210, two preclinical product candidates targeting foundational immunomodulatory mechanisms we are developing to treat cancer and other immunological disorders, and LYT-300, a preclinical product candidate we are developing for a range of neurological and neuropsychological conditions. Our Wholly Owned Programs also include three discovery programs: Glyph™—our synthetic lymphatic targeting chemistry platform—and Orasome™—our oral biotherapeutics platform—both of which leverage absorption of dietary lipids to traffic therapeutics via the lymphatic system, and our meningeal lymphatics discovery research program for treating neurodegenerative diseases.

Components of our Value

The table below depicts the four components of our value: (1) our Wholly Owned Pipeline, (2) Founded Entities that we have a controlling interest in or from which we are entitled to receive royalty payments, (3) Founded Entities where our interest is limited to our equity ownership and (4) our available cash, cash equivalents and short-term investments at the parent level as of June 30, 2020.

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We hold majority voting control of our Controlled Founded Entities and continue to play a role in the development of their product candidates through representation on their board of directors, with respect to Follica, Vedanta, Alivio and Sonde. Our board designees represent a majority of the members of the board of directors of Follica, Vedanta and Alivio and a minority of the members of the board of directors of Sonde. With respect to our Non-Controlled Founded Entities, we do not hold majority equity ownership and are not responsible for the development or commercialization of their product candidates and FDA-cleared products. Our Non-Controlled Founded Entities have independent management teams, and we do not control the day-to-day development of their respective product candidates.

(1) Our Wholly Owned Pipeline. We are focused on the advancement of our Wholly Owned Pipeline and delivering value to our shareholders by driving our Wholly Owned Programs to key clinical and commercial milestones, while continuing cutting edge research and development efforts to discover and advance new product candidates. The table below includes a summary of our Wholly Owned Programs and their development status.

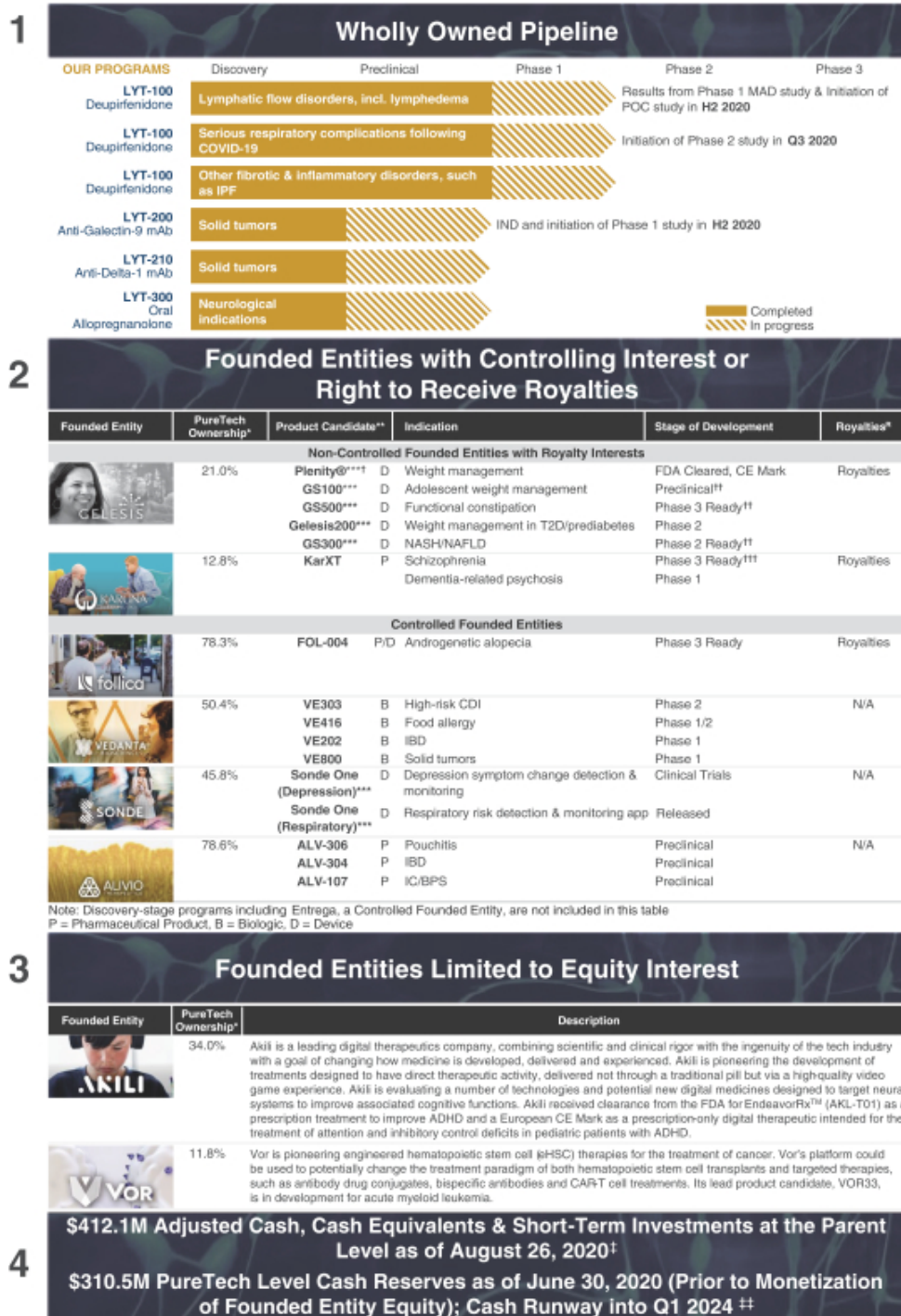
(2) Founded Entities with Controlling Interest or Right to Receive Royalties. The table below summarizes, in order of development stage, the product candidates being developed by our Founded Entities in which we either have a controlling interest or the right to receive royalty payments. We established the underlying programs and platforms that have resulted in the product candidates noted in the table and advanced them through key validation points. Each of these product candidates targets indications related to one or more of the BIG systems, and any value we realize from these product candidates will be through the potential growth and realization of equity and royalty stakes highlighted in the table below.

(3) Founded Entities Limited to Equity Interest. We also hold equity ownership in our Non-Controlled Founded Entities, Akili and Vor. The table below describes these entities, in order of development stage. Our interest in the product candidates of these entities is limited to the potential appreciation of our equity interest in these entities.

(4) Cash, Cash Equivalents and Short-Term Investments. At the parent level, PureTech Health plc had cash, cash equivalents and short-term investments of \$310.5 million at June 30, 2020, which does not reflect \$101.6 million in proceeds received by PureTech in August 2020 from the sale of 1.3 million shares of Karuna common stock and excludes all other cash outflows from June 30, 2020, for total adjusted cash, cash equivalents and short-term investments of \$412.1 million as of August 26, 2020.

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Components of our Value



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- Note: The table above does not include any discovery-stage programs which we consider to be an additional component of our value, including Entrega, a Controlled Founded Entity.
- * Relevant ownership interests for Founded Entities were calculated on a diluted basis (as opposed to a voting basis) as of June 30, 2020, including outstanding shares, options and warrants, but excluding unallocated shares authorized to be issued pursuant to equity incentive plans. Ownership of Vor is based on the assumption that all future tranches of the most recent financing round are funded. Karuna ownership is calculated on an outstanding voting share basis as of August 26, 2020.
 - ** The letters next to the product candidates denote whether the product candidate is a pharmaceutical product (P), biologic (B), or device (D).
 - R PureTech Health has a right to royalty payments as a percentage of net sales. For a description of these agreements, see “Business—Overview.”
 - *** These product candidates are regulated as devices and their development has been approximately equated to phases of clinical development.
 - † Important Safety Information: Plenity is contraindicated in patients who are pregnant or are allergic to cellulose, citric acid, sodium stearyl fumarate, gelatine, or titanium dioxide. Plenity may alter the absorption of medications. Read Sections 6 and 8.3 of the Instructions for Use carefully. Avoid use in patients with the following conditions: esophageal anatomic anomalies, including webs, diverticuli, and rings; suspected strictures (such as patients with Crohn’s disease); or complications from prior GI surgery that could affect GI transit and motility. Use with caution in patients with active GI conditions such as gastro-esophageal reflux disease, or GERD, ulcers or heartburn. The overall incidence of AEs in the Plenity group was no different than the placebo group. The most common side effects were diarrhea, distended abdomen, infrequent bowel movements, and flatulence. For the safe and proper use of Plenity, U.S. Instructions for Use or the EU Instructions for Use.
 - †† Contingent on FDA review of the research plan.
 - ††† Following the completion of a successful End-of-Phase 2 meeting with the U.S. FDA, Karuna remains on track to initiate the first Phase 3 trial in the EMERGENT program by the end of 2020.
 - ‡ At the parent level, PureTech Health plc had cash equivalents and short-term investments of \$310.5 million at June 30, 2020, which does not reflect \$101.6 million in proceeds received by PureTech in August 2020 from the sale of 1.3 million shares of Karuna common stock and excludes all other cash outflows from June 30, 2020, for total adjusted cash, cash equivalents and short-term investments of \$412.1 million as of August 26, 2020.
 - ‡‡ PureTech Level Cash Reserves at June 30, 2020 represent cash balances and short-term investments held at PureTech Health LLC, PureTech Management, Inc., PureTech Health PLC, PureTech Securities Corporation of \$284.2 million and held at PureTech LYT Inc., our internal pipeline, of \$26.3 million, all of which are wholly owned entities of PureTech, excluding cash balances and short-term investments of Controlled Founded Entities which are not wholly owned.

Our Model

We employ the following process to identify and develop product candidates:

- **Step 1: A Collaborative Discovery Process Leveraging our Biological Expertise in the BIG Axis and our Scientific Network:** We collaborate with the world’s leading domain experts on a disease-specific discovery theme through the lens of BIG Axis biology. We have proven our ability to efficiently leverage our cross-disciplinary research and discovery efforts across multiple indications and potential therapeutic areas, reducing early development risk based on preliminary signals of activity in humans and promising tolerability profiles.
- **Step 2: A Disciplined Approach to Program Advancement:** We employ a rigorous and disciplined approach to research and development. The breadth and depth of our Wholly Owned Pipeline and our Founded Entities’ programs allow us to quickly pivot resources to the more promising therapeutic opportunities, strategically reallocate capital across programs and terminate Wholly Owned Programs we choose not to pursue without adversely impacting the development of other programs.

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- **Step 3: A Capital Efficient Approach to Driving Clinical Development and Value Creation:** We have financed our development efforts through strategic collaborations, pharmaceutical partnerships and public and private equity financings. We leverage shared resources, institutional knowledge and infrastructure between our earlier-stage Founded Entities and development efforts within our Wholly Owned Programs to advance our programs efficiently prior to proof-of-concept, or POC. As part of our disciplined capital management, we have been able to generate \$359.9 million in non-dilutive funding as of August 26, 2020 through the sales of portions of Founded Entity shares.

Key Pipeline Components and Expected Milestones Through 2021

Through 2021, we anticipate many significant potential milestones across our Wholly Owned Programs and Founded Entities, including at least 10 clinical readouts and at least 14 clinical study initiations and the full commercial rollout of two products. Of these, four clinical readouts and four clinical study initiations are anticipated within our Wholly Owned Programs. Additionally, we expect the continued progress of discovery and preclinical programs, as well as the potential for additional strategic partnerships and transactions and the growth of value through our equity and royalty holdings in our Founded Entities. Our Wholly Owned Programs and certain of our Founded Entities' programs that contribute to our value are as follows:

Our Wholly Owned Programs Harnessing Immunological and Lymphatic System Mechanisms:

- **LYT-100, Our Lead Clinical-Stage Product Candidate Targeting a Range of Inflammatory, Fibrotic, Lymphatic Flow Disorders, and Other Related Indications:** We are advancing our wholly-owned product candidate LYT-100 for the potential treatment of conditions involving inflammation and fibrosis and disorders of lymphatic flow, including lung dysfunction conditions (e.g., idiopathic pulmonary fibrosis, or IPF, unclassifiable interstitial lung diseases, or uILDs, and respiratory complications that persist following the resolution of SARS-CoV-2 (COVID-19) infection) and lymphedema. LYT-100 is currently being evaluated in a multiple ascending dose Phase 1 clinical trial, which we expect data to readout in the second half of 2020. We intend to commence a proof-of-concept, or POC, study in patients with breast cancer related, upper limb secondary lymphedema in the second half of 2020, with topline results anticipated in the second half of 2021. We also intend to commence a Phase 2 study in respiratory complications that persist following the resolution of COVID-19 infection in the third quarter of 2020, with a potential readout in the second half of 2021. We also intend to explore the application of other potential new product candidates from our meningeal lymphatics platform for a range of neurodegenerative diseases. We are conducting a Phase 1 trial and plan to conduct Phase 2 and POC trials for LYT-100 outside of the United States and are following the applicable regulatory requirements in this jurisdiction. We intend to file an IND with the FDA for LYT-100 prior to initiating a trial in the United States.
- **LYT-200 and LYT-210, Two Preclinical Immuno-Oncology, or IO, Product Candidates Harnessing Key Immune Cell Trafficking and Programming Mechanisms:** The lymphatic system plays a crucial role in programming immune cells for precise functions and trafficking them to specific tissues. By modulating immune cell trafficking and programming, we are developing product candidates for the treatment of cancer and other immunological disorders. We are advancing LYT-200, targeting galectin-9, for a range of cancer indications, and LYT-210, targeting immunomodulatory gd1 (gamma delta-1) T cells, for a range of cancer indications and autoimmune disorders. We intend to file an Investigational New Drug Application, or IND, for LYT-200 and initiate a Phase 1 clinical trial in solid tumors in the second half of 2020. We also intend to advance additional preclinical and biomarker studies for LYT-210 in 2021.
- **LYT-300, Preclinical Product Candidate Developed Using our Glyph™ Technology Platform, Targeting Neurological and Neuropsychological Conditions:** The most advanced product candidate from our Glyph technology platform is LYT-300 (oral allopregnanolone), which is being evaluated in a preclinical setting for a range of neurological and neuropsychological conditions. We expect to initiate a first-in-human clinical trial with LYT-300 by the end of 2021.

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- **Our Discovery Platforms – Glyph (Lymphatic Targeting Chemistry Platform) and Orasome™ (Oral Biotherapeutics Platform) – Leveraging Absorption of Dietary Lipids to Traffic Therapeutics via the Lymphatic System:** We are harnessing the role of the lymphatic system in the absorption of dietary lipids to orally administer and traffic therapeutics via the lymphatic system. Our Glyph and Orasome technology platforms are based on this key function of the lymphatic system. We also expect to advance additional product candidates from these platforms internally, and to potentially continue to broaden the platforms through strategic collaborations around non-core applications, beyond our existing discovery collaboration with a large pharmaceutical company.

Certain of Our Controlled Founded Entities:

- **Follica:** Follica, Incorporated, or Follica, which is developing a regenerative biology platform designed to treat androgenetic alopecia, epithelial aging and other medical conditions, is advancing FOL-004 for the treatment of hair loss in androgenetic alopecia. In December 2019, Follica announced topline results from a safety and efficacy optimization study. Follica announced the completion of an End-of-Phase 2 meeting with the FDA in June 2020, which supports the progression into Phase 3 development. The initiation of a Phase 3 registration study is expected in the second half of 2020. We are party to a royalty agreement with Follica pursuant to which we are entitled to low single-digit royalties on worldwide net sales of certain commercialized products and a percentage of any sublicense income for certain of its technologies within the range of mid single-digit and mid teen percentages. Our interest in Follica also includes our equity ownership of 78.3 percent at June 30, 2020.
- **Vedanta:** Vedanta Biosciences, Inc., or Vedanta, which is developing a new category of therapies for immune-mediated diseases based on a rationally-defined consortia of human microbiome-derived bacteria, expects topline data from a Phase 2 clinical trial for VE303 in high-risk *C. difficile* infection, or CDI, in 2021; topline data from a first-in-patient clinical trial of VE800 in combination with Bristol-Myers Squibb's checkpoint inhibitor Opdivo® (nivolumab) in patients with selected types of advanced or metastatic cancer in 2021; and topline data from a Phase 1/2 clinical trial for VE416 in food allergy in 2021. Vedanta announced topline data from two Phase 1 studies in healthy volunteers of VE202, a product candidate being developed for inflammatory bowel disease, or IBD, in June 2020 and expects to advance VE202 into a Phase 2 study for IBD in 2021. Our interest in Vedanta is limited to our equity ownership of 50.4 percent at June 30, 2020.

Certain of Our Non-Controlled Founded Entities:

- **Gelesis:** Gelesis, Inc., or Gelesis, which is developing oral therapeutics based on a novel, superabsorbent hydrogel technology platform to treat obesity and other chronic diseases related to the GI pathway, received clearance from the FDA in April 2019 and European marketing authorization in June 2020 to market and sell its lead product Plenity® (formerly known as Gelesis100) as an aid for weight management in adults with a Body Mass Index, or BMI, of 25-40 kg/m², when used in conjunction with diet and exercise. Gelesis plans to bring Plenity to the U.S. first, where it is now available to a limited extent while Gelesis ramps up commercial operations and inventory for a full launch in 2021. Gelesis plans to seek FDA input on the requirements for expanding the Plenity label for treating adolescents. Gelesis is also advancing a pipeline of product candidates focused on treating GI disorders. Gelesis expects topline results from a Phase 2 study of Gelesis200 for weight management and glycemic control in adults with type 2 diabetes or pre-diabetes in 2021, to initiate a Phase 2 study of GS300 in non-alcoholic steatohepatitis and non-alcoholic fatty liver disease, or NASH/NAFLD, in the second half of 2020, and to initiate a Phase 3 study for GS500 in functional constipation in the second half of 2020. We have entered into a royalty and sublicense income agreement with Gelesis, pursuant to which we are entitled to low single-digit royalties on the worldwide net sales of certain commercialized products, as well as a low teen percentage of any income Gelesis receives from sublicensing certain of its technology. Our interest in Gelesis also includes our equity ownership of 21.0 percent at June 30, 2020.

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- **Akili:** Akili Interactive Labs, Inc., or Akili, is pioneering the development of treatments designed to have direct therapeutic activity, delivered not through a traditional pill but via a high-quality video game experience. Akili has a broad pipeline of programs to target cognitive dysfunction associated with medical conditions across neurology and psychiatry. Akili received clearance from the FDA and European marketing authorization in June 2020 for EndeavorRx™ (formerly known as AKL-T01) as a prescription treatment for children with ADHD. Delivered through a captivating video game experience, EndeavorRx is indicated to improve attention function as measured by computer-based testing in children ages 8-12 years old with primarily inattentive or combined-type ADHD, who have a demonstrated attention issue. Akili expects that the EndeavorRx treatment will be available with a prescription to families soon. Our interest in Akili is limited to our equity ownership of 34.0 percent at June 30, 2020.
- **Karuna:** Karuna Therapeutics, Inc., or Karuna, which is developing novel therapies with the potential to transform the lives of people with disabling and potentially fatal neuropsychiatric disorders, including schizophrenia and dementia-related psychosis, is developing KarXT, an investigational product candidate designed to selectively activate muscarinic acetylcholine receptors in the brain. KarXT is Karuna's proprietary product candidate, which combines xanomeline, a muscarinic receptor agonist, with tropium chloride, an FDA-approved and well established muscarinic receptor antagonist that has been shown not to measurably cross the blood-brain barrier, to preferentially stimulate M1/M4 muscarinic receptors in the brain without stimulating muscarinic receptors in peripheral tissues in order to achieve meaningful therapeutic benefit in patients with psychotic and cognitive disorders. In November 2019, Karuna announced topline results from EMERGENT-1, its Phase 2 clinical trial of KarXT for the treatment of acute psychosis in patients with schizophrenia, in which KarXT met the trial's primary endpoint with a statistically significant ($p < 0.0001$) and clinically meaningful 11.6 point mean reduction in total Positive and Negative Syndrome Scale, or PANSS, over placebo at week five (-17.4 KarXT vs. -5.9 placebo), with similar discontinuation rates between KarXT (20 percent) and placebo (21 percent). The study enrolled 182 schizophrenia patients with acute psychosis, 90 of whom received KarXT. The number of discontinuations due to treatment emergent AEs were equal in the KarXT and placebo arms ($n=2$ in each group). One SAE was observed in the KarXT treatment group, in which the patient discontinued treatment and subsequently sought hospital care for worsening psychosis, meeting the regulatory definition of an SAE. Karuna held an End-of-Phase 2 meeting with the FDA in June 2020, the outcome of which supports the progression of KarXT into Phase 3 development. Karuna plans to initiate two five-week inpatient trials evaluating the efficacy and safety of KarXT for the treatment of acute psychosis in adults with schizophrenia. The first Phase 3 trial, EMERGENT-2, is expected to commence by the end of 2020. Additionally, Karuna anticipates topline results from a Phase 1b clinical trial in healthy volunteers to assess the safety and tolerability of KarXT by the end of 2020. This Phase 1b trial is designed to demonstrate safety and tolerability of KarXT in healthy elderly volunteers in order to select the most appropriate dose to carry forward into future studies in patients with dementia-related psychosis. We have entered into an exclusive license agreement with Karuna pursuant to which we are entitled to receive low single-digit royalties and up to \$10.0 million in milestone payments on worldwide net sales of any commercialized product covered by the granted license. Our interest in Karuna also includes our equity ownership of 12.8 percent at August 26, 2020.

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The chart below depicts milestones that are anticipated to be achieved by our Wholly Owned Programs and our Founded Entities' products and product candidates through 2021 and our progress on previously declared milestones for 2020:

Product Candidate	PureTech Ownership*	2020	2021	2022+
Wholly Owned Pipeline				
LYT-100	100%	Results from Ph1 MAD & initiation of POC in lymphedema	Results from POC in patients with breast cancer-related lymph	
LYT-100	100%	Initiation of Ph2 in respiratory complications following COVID-19	Results from Ph2 in respiratory complications following COVID-19	
LYT-200	100%	IND filing; Initiation of Ph1 in solid tumors	Results from Ph1 in solid tumors	
LYT-210	100%	Preclinical and biomarker studies	Preclinical and biomarker studies	
LYT-300	100%		Initiation of first-in-human clinical studies	
Discovery programs	100%	Nomination of preclinical candidate(s) ✓	Results from non-human primate POC; Publish key preclinical data	
Non-Controlled Founded Entities with Royalty Interests				
Plenity®	21.0%	Targeted US commercial launch ✓ European CE Mark granted ✓	Full US launch	Topline results from multiple clinical studies Additional strategic partnerships New clinical candidate selections Progress of discovery/preclinical programs
Gelesis200	21.0%		Results from Ph2 in patients with T2D and pre-diabetes	
GS500	21.0%	Initiation of Ph3 in functional constipation		
GS300	21.0%	Initiation of Ph2 in NASH/NAFLD		
GS100	21.0%		Seeking FDA input for expanding Plenity label to treat adolescents	
KarXT	12.8%	End-of-Ph2 meeting ✓ Initiation of first Ph3	Initiations of second Ph3 & open-label, long-term safety study	
Controlled Founded Entities				
FOL-004	78.3%	End-of-Ph2 meeting ✓ Initiation of Ph3 program in AGA		
VE303	50.4%		Results from Ph2 in high-risk CDI	
VE202	50.4%	Results from Ph1 healthy subject studies for IBD ✓	Initiation of Ph2 in IBD	
VE416	50.4%		Results from Ph1/2 for food allergy	
VE800	50.4%		Results from first-in-patient clinical trial in solid tumors	
Sonde One (Respiratory)	45.8%	Launched Sonde One for Respiratory ✓		
ALV-306	78.6%		IND filing; Initiation of clinical study in pouchitis	
ALV-107	78.6%		IND filing	
ENT-100	72.9%	Continued advancement of platform		
Founded Entities Limited to Equity Interest				
EndeavorRx™	34.0%	FDA cleared, European CE Mark granted in pediatric ADHD ✓		
VOR33	11.8%	Pre-IND meeting with the FDA ✓	Initiation of Ph1 in acute myeloid leukemia	
Potential financings & strategic transactions across Founded Entities				

■ Product candidate related to the Brain
■ Product candidate related to the Immune system
■ Product candidate related to the Gut
 Key milestones are **bolded** ✓ indicates completed milestone

* Relevant ownership interests for Founded Entities were calculated on a diluted basis (as opposed to a voting basis) as of June 30, 2020, including outstanding shares, options and warrants, but excluding unallocated shares authorised to be issued pursuant to equity incentive plans. Ownership of Vor is based on the

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assumption that all future tranches of the Series B Financing are funded. Karuna ownership is calculated on an outstanding voting share basis as of August 26, 2020 to account for our sale of Karuna shares on August 26, 2020.

Our Scientific Focus: The Brain-Immune-Gut (BIG) Axis

The product candidates being advanced within our Wholly Owned Programs and by our Founded Entities, and our work in these areas, in close collaboration with leading academic and clinical experts, has led us to focus on the biological interplay among these three systems, which we refer to as the BIG Axis. The architectural framework supporting BIG Axis cross-talk is built on evidence highlighting the presence of 70 percent of the entire immune cell population in the gut, approximately 500 million neurons innervating the GI tract, enteric neurons as part of the autonomic nervous system and key components such as the gut epithelial barrier, microbiome, metabolites and neurotransmitters that play key roles in protecting and influencing the immune system and CNS.

The brain, immune system and gut lymphatic system form an interconnected adaptive network to respond to acute and chronic environmental change. Using the immune system to act as a bridge, the body relies on the bidirectional relationship between the gut and brain to maintain normal homeostasis. Dysregulation of immune signaling through gut inflammation, microbiome changes and a compromised intestinal barrier all contribute to a range of immunological, GI and neurology and neuropsychological disorders. We have been at the forefront of research and development in the BIG Axis, including the role of gut-immune transport, immune-microbial signaling, gut barrier dysfunction and repair and gut and inflammation selective targeting strategies. In our Wholly Owned Programs, we are pursuing strategies to directly reach the immune system via the mesenteric lymph nodes, addressing lymphatic flow and vessel restoration disorders and targeting immunosuppressive and pathogenic lymphocytes.

Recent scientific advances, including the work of our network of scientific collaborators, have uncovered the lymphatic system as one of the most critical players in the BIG Axis. In addition to maintaining the balance of interstitial fluid that surrounds the body's cells, the lymphatic system plays a key role in conducting surveillance of the immune system through an intricate network of vessels connecting the over 300 lymph nodes, serving as a "superhighway" for programming immune cells for specific functions and trafficking them to specific tissues. The mesenteric lymph node group around the intestines serves as the primary interface between the gut and the immune system and for programming circulating adaptive immune cells. The recent discovery of meningeal lymphatics in the brain, an area once thought to have immune privilege, has shed new light on neurodegenerative diseases and lymphatic vessel aging.

Through our scientific leadership in the BIG systems and the BIG Axis, we have created the underlying programs and product candidates that have the potential to treat inflammatory and immunological conditions, intractable cancers, lymphatic and GI diseases and neurological and neuropsychological disorders, among others.

Our Model

We employ the following process to identify and develop product candidates:

- **Step 1: A Collaborative Discovery Process Leveraging our Biological Expertise in the BIG Axis and our Scientific Network:** We collaborate with the world's leading domain experts on a disease-specific discovery theme through the lens of BIG Axis biology. All of our Wholly Owned Programs target one or more of the BIG systems and we prioritize programs that have the potential to reduce early development risk based on preliminary signals of activity in humans and promising tolerability profiles. We have proven our ability to efficiently leverage our cross-disciplinary research and discovery efforts across multiple indications and potential therapeutic areas. Our program collaborators and co-inventors across our Wholly Owned Programs and Founded Entities' programs include leading

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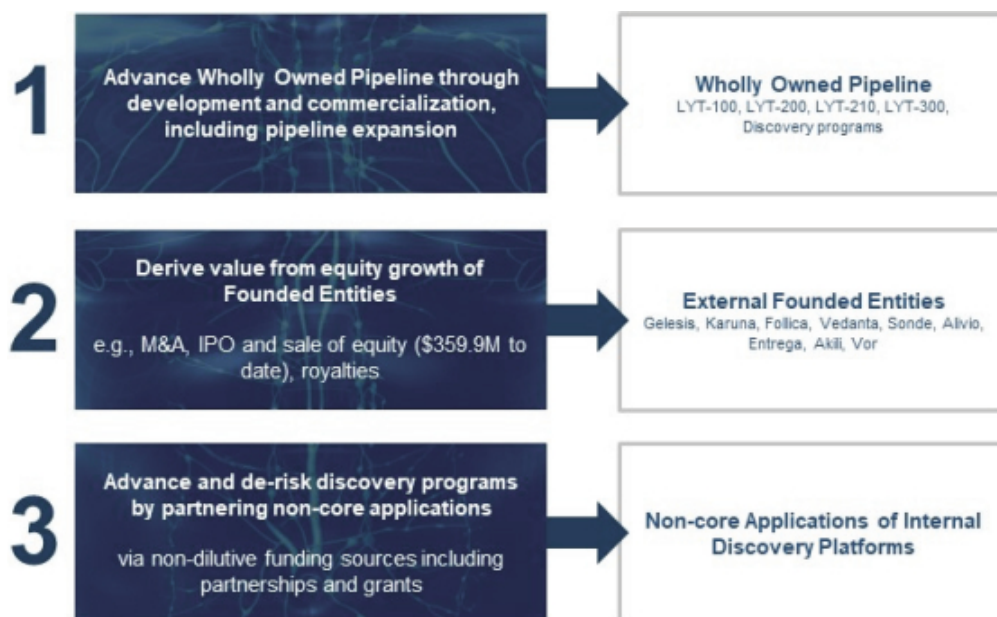
academic minds, recipients of major awards such as the Nobel Prize, the United States National Medal of Science, the Charles Stark Draper Prize and the Priestley Medal; members of prestigious institutions such as the Howard Hughes Medical Institute, all three of the National Academies and world renowned academic institutions such as Harvard, MIT, Yale, Columbia, Johns Hopkins, Imperial College of London and Cornell, among others; and former senior executives and board members at some of the world's largest pharmaceutical companies.

- **Step 2: A Disciplined Approach to Program Advancement:** We employ a rigorous and disciplined approach to research and development. The breadth and depth of our Wholly Owned Pipeline and our Founded Entities' programs allow us to quickly pivot resources to the more promising therapeutic opportunities, strategically reallocate capital across programs and terminate Wholly Owned Programs we choose not to pursue without adversely impacting the development of other programs. We, through our internal resources and with our extensive expert network and collaboration partners, repeat key academic work and conduct focused experiments both internally and externally to rapidly advance those that we believe hold the greatest promise and deprioritize less attractive programs. Collectively, these activities decrease the risk of any individual program event negatively impacting our Wholly Owned Pipeline and enable us to preserve capital for the programs across our Wholly Owned Pipeline and Founded Entities that we believe have the greatest opportunity for value creation in alignment with our shareholders.
- **Step 3: A Capital Efficient Approach to Driving Clinical Development and Value Creation:** Our management team has successfully driven these product candidates from early stage research and development, through POC and into clinical trials and has supported dedicated teams at our Non-Controlled Founded Entities through pivotal trials and FDA clearance. We have financed our development efforts through strategic collaborations, pharmaceutical partnerships, non-dilutive funding mechanisms, including through the sale of our Founded Entities' equity and through grants, and public and private equity financings. We leverage shared resources, institutional knowledge and infrastructure between our earlier-stage Founded Entities and development efforts within our Wholly Owned Programs to advance our programs efficiently prior to POC. This approach has enabled the discovery and development of 24 products and product candidates to date, including two that have been cleared by the U.S. FDA and granted marketing authorization in the EEA, between our Wholly Owned Programs and our Founded Entities, in which we retain equity ownership ranging from 78.6 percent to 11.8 percent. At the parent level, PureTech Health plc had cash equivalents and short-term investments of \$310.5 million at June 30, 2020, which does not reflect \$101.6 million in proceeds received by PureTech in August 2020 from the sale of 1.3 million shares of Karuna common stock and excludes all other cash outflows from June 30, 2020, for total adjusted cash, cash equivalents and short-term investments of \$412.1 million as of August 26, 2020. From January 1, 2017 to June 30, 2020, our Founded Entities strengthened their collective balance sheets by attracting \$1.084 billion in investments and non-dilutive funding, including \$997.6 million from third parties. As part of our disciplined capital management, we have been able to generate \$359.9 million in non-dilutive funding, as of August 26, 2020, through the sales of portions of Founded Entity shares.

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Our Strategy

Driving Development of Potential New Medicines and Accretion of Value Via Three Paths



Our goal is to identify, invent, develop and commercialize innovative new categories of therapeutics that are derived from our deep understanding of the BIG Axis to address significant unmet medical needs. To achieve this goal, key components of our strategy include:

- **Advancing Wholly Owned Programs Through Development and Commercialization, Including Pipeline Expansion:**
 - **Progressing LYT-100, LYT-200, LYT-210 and LYT-300 through clinical studies:** We are developing novel classes of immunomodulatory drugs to treat serious diseases, including lung dysfunction, oncology, lymphatic, neurological and neuropsychological disorders. In July 2019, we acquired LYT-100, a small molecule product candidate that was well-tolerated in a Phase 1 clinical trial in healthy volunteers and showed a desirable pharmacokinetic, or PK, profile suitable for oral administration. Due to LYT-100's observed potent anti-fibrotic and anti-inflammatory activity in preclinical models and encouraging Phase 1 clinical trial data, we are advancing our wholly-owned product candidate LYT-100 for the potential treatment of conditions involving inflammation and fibrosis and disorders of lymphatic flow, including lung dysfunction conditions (e.g., IPF, uILDs and respiratory complications that persist following the resolution of SARS-CoV-2 (COVID-19) infection) and lymphedema. LYT-100 is being studied in a multiple ascending dose study, which we expect data to readout in the second half of 2020. We intend to commence a POC study in patients with breast cancer-related, upper limb secondary lymphedema in the second half of 2020, with topline results expected in the second half of 2021. We also plan to commence a Phase 2 study in respiratory complications that persist following the resolution of COVID-19 infection in the third quarter of 2020, with topline results expected in the second half of 2021. We are developing LYT-200, an investigational, fully human, monoclonal antibody, or mAb, that is designed to target galectin-9, a protein that regulates immunosuppression and is prominently expressed in hard-to-treat cancers such as colorectal cancer, or CRC, cholangiocarcinoma, or CCA, and pancreatic cancer. We believe LYT-200 has shown preliminary

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POC in both preclinical human and mouse cancer models. We plan to file an IND for LYT-200 and to initiate a Phase 1 study in solid tumors in the second half of 2020. LYT-210 is an investigational, fully human, mAb targeting immunosuppressive or pathogenic gd1 T cells. We are also developing LYT-300, oral allopregnanolone, and evaluating its potential to address a range of neurological and neuropsychological conditions. We expect to initiate a first-in-human clinical study with LYT-300 by the end of 2021.

- ***Harnessing our proprietary drug discovery and development capabilities to drive pipeline maturation and expansion:*** We are pioneering the development of therapeutic candidates by leveraging our unique insights into the lymphatic system and the BIG Axis. Our Wholly Owned Programs currently comprise four proprietary product candidates and three innovative technology platforms. We intend to leverage our proprietary technology platforms, as well as our extensive network with world-leading scientists in immunology and lymphatics and major pharmaceutical companies, to generate and acquire additional novel product candidates. To do so, we will rely on the track record of our team, which has been instrumental in the generation of 24 products and product candidates to date between our Wholly Owned Programs and our Founded Entities, including two that have been cleared by the U.S. FDA and granted marketing authorization in the EEA, as well as our established internal identification and prioritization approach. We will continue to take advantage of our differentiated model to manage the risk of any single program and quickly redeploy resources towards performing assets.
- ***Maximizing the impact of our Wholly Owned product candidates by expanding development across multiple indications:*** We aim to focus our development efforts on product candidates that have the potential to treat multiple diseases and plan to develop them in additional indications where warranted. For example, we believe that our product candidate LYT-100 has the potential to be evaluated in multiple fibrotic indications beyond our initial target indication of lymphedema, such as serious respiratory complications that persist following the resolution of COVID-19, IPF, uILD, and focal segmental glomerulosclerosis, or FSGS. We are initially developing our other internal product candidates, LYT-200 and LYT-210, for the treatment of certain cancers, including CCA, CRC and pancreatic cancers, among others, and we are evaluating LYT-210 for the potential treatment of GI autoimmune diseases. Lastly, we are evaluating LYT-300 for a range of neurological and neuropsychological conditions.
- ***Deriving Value from Equity Growth of Our Founded Entities:*** Historically, we have pursued a variety of strategic options to fund and drive the development of our Founded Entities' product candidates, including private and public financings and multiple partnerships and collaborations with selected partners. In the preliminary stages of our growth, we partnered with equity investors, pharmaceutical and biotechnology companies and government and non-governmental organizations for certain of our Founded Entities which are now in advanced stages and have the potential for near-term value creation with significant upside potential. Going forward, we intend to participate in private and public financings, enter into partnerships and collaborations, partner with equity investors, pharmaceutical and biotechnology companies and government and non-governmental organizations for certain of our Founded Entities and strategically monetize certain of our equity holdings in our Founded Entities after significant value creation has occurred, generating non-dilutive financing. For example, in 2020, PureTech generated cash proceeds of \$347.5 million from the sale of equity in one of our Founded Entities, which we intend to use to fund our operations and growth and to further expand and advance our clinical-stage Wholly Owned Pipeline, while still maintaining significant equity ownership to derive value from future growth of that entity. We may create additional entities opportunistically based on future strategic imperatives.
- ***Advancing Discovery Programs by Partnering Non-Core Applications via Non-Dilutive Funding Sources, Including Partnerships and Grants, to Enable Retention of Value:*** As we further develop our Wholly Owned Programs through key value inflection points, we may opportunistically enter into strategic partnerships when we believe that such partnerships could add value to the development or

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potential commercialization of our Wholly Owned product candidates. We will also continue to pursue government grant funding and discovery partnerships that allow us to maintain most of the value of our platforms while offsetting operational costs.

We believe this combination of development of our Wholly Owned Programs, Founded Entity advancement and non-dilutive partnerships and funding provides us with a unique and multi-pronged engine fueling potential future growth.

Our Focus on the Lymphatic System

The lymphatic system is a network of tissues and organs in the body that fulfills three essential functions: (1) maintaining the balance of the fluid that surrounds the body's cells, or interstitial fluid, (2) conducting surveillance of the immune system and serving as a "superhighway" for immune cell trafficking and (3) absorbing dietary lipids through an intricate network of vessels in the intestinal tract.

Dysfunction of the lymphatic system is associated with numerous disease states, and we believe that restoring lymphatic function in various disease settings can yield meaningful patient benefit. Our proprietary Wholly Owned Programs leverage these critical functions of the lymphatic system to produce product candidates with the potential to treat serious diseases:

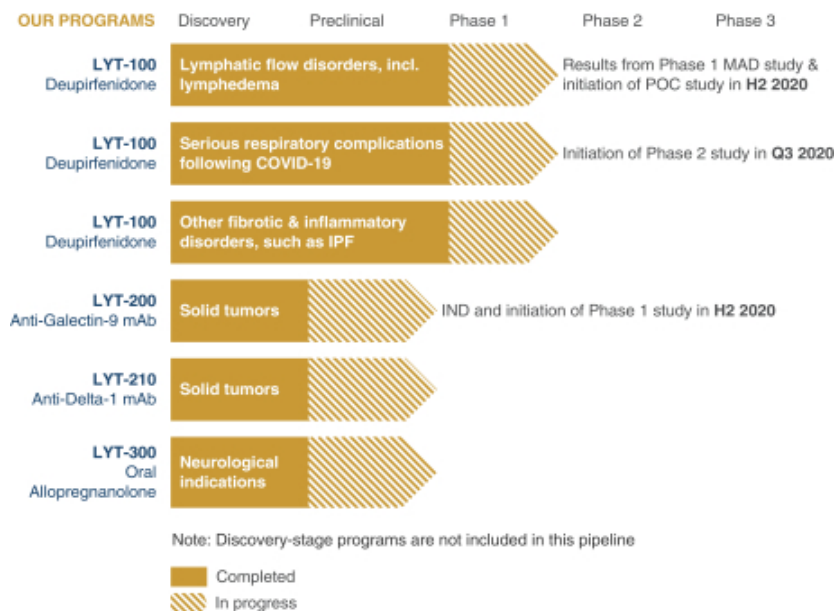
- **Maintaining balance of fluids:** We are leveraging insights into the lymphatic system by developing clinical-stage product candidate LYT-100 and several discovery-stage programs to address disorders involving impaired lymphatic flow and other conditions involving inflammation and fibrosis, such as lymphedema and certain neurological disorders.
- **Immune modulation:** The lymphatic system plays a crucial role in programming immune cells for precise functions and trafficking them to specific tissues. By modulating immune cell trafficking and programming, we are developing product candidates for the treatment of cancer and immunological disorders. We are advancing LYT-200, our product candidate targeting galectin-9 in solid tumors and LYT-210, our product candidate targeting immunosuppressive gd1 T cells in solid tumors and autoimmune disorders, for a range of cancer indications and autoimmune disorders.
- **Driving therapeutics through lymphatics:** We are harnessing the role of the lymphatic system in the absorption of dietary lipids to orally administer and traffic therapeutics via the lymphatic system where immune cells are programmed. LYT-300 and our Glyph (lymphatic targeting) and Orasome (oral biotherapeutics) platforms are based on this key function of the lymphatic system.

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Our Wholly Owned Programs

We are advancing our Wholly Owned Programs that are designed to harness immunological and lymphatic system mechanisms for the treatment of lung dysfunction, oncology, lymphatic, neurological and neuropsychological disorders. The following chart summarizes our Wholly Owned Programs and their current status:

PureTech’s Wholly Owned Programs: Harnessing Key Immunological & Lymphatic System Mechanisms



LYT-100: Deupirfenidone, Our Most Advanced Wholly Owned Product Candidate for the Potential Treatment of Conditions Involving Inflammation and Fibrosis and Disorders of Lymphatic Flow

Our lead wholly-owned product candidate, LYT-100, is being advanced for the potential treatment of conditions involving inflammation and fibrosis and disorders of lymphatic flow, including lung dysfunction conditions (e.g., IPF, uILDs and respiratory complications that persist following the resolution of SARS-CoV-2 (COVID-19) infection) and lymphedema. LYT-100 (deupirfenidone) is a selectively deuterated form of pirfenidone, with anti-inflammatory, antioxidant and antifibrotic properties and superior PK properties and activity compared to pirfenidone. LYT-100 shares pirfenidone’s beneficial mechanism of action but is expected to be metabolized slower and with less variability between patients compared with pirfenidone.

Pirfenidone is effective in slowing fibrotic pulmonary decline in IPF, has been granted “breakthrough” status in uILD, has shown activity in investigational clinical studies in patients with FSGS as well as other indications and has demonstrated activity in a preclinical model of lymphedema and radiation-induced fibrosis. Deuteration of pirfenidone involves substitution of specific hydrogens in a chemical structure for deuterium, a non-toxic, naturally occurring form of hydrogen. A similar modification was determined by the FDA to create a new chemical entity. Deuteration of pirfenidone improves the stability of the resulting drug, attenuates the breakdown of the drug’s active metabolite and has shown a differentiated PK profile compared to non-deuterated pirfenidone in clinical studies. We believe this differentiated PK profile could enable potentially improved efficacy, less frequent dosing, improved tolerability, reduced interpatient variability in drug metabolism and reduced drug-drug interactions. LYT-100 is extensively protected by composition of matter patents, as well as patents covering methods of use and process of manufacture for deupirfenidone as well as other claims.

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LYT-100 was originally developed by Auspex Pharmaceuticals, Inc., or Auspex, for the treatment of IPF. We selected and acquired LYT-100 in July 2019 based on insights into the lymphatic system gained internally and via unpublished findings through our network of collaborators, coupled with the relationships of our team members and their insights into the program previously developed at Auspex. These insights led us to an initial target indication of lymphedema, and we also believe that LYT-100 has the potential to be evaluated in multiple fibrotic and inflammatory indications beyond our initial target indication of lymphedema, such as serious respiratory complications that persist following the resolution of COVID-19 infection, IPF, interstitial lung diseases, and FSGS. Auspex was a leader in deuteration chemistry and was acquired by Teva Pharmaceutical Industries in 2015. Pursuant to an Asset Purchase Agreement by and between Auspex and PureTech Health LLC, dated July 15, 2019, Auspex assigned and transferred all patent claims, inventory, technology, contracts and related rights relating to LYT-100 to us. As consideration, we paid an upfront payment, which we do not deem material. In addition, Auspex is eligible to receive milestone payments of approximately \$84 million in the aggregate depending upon specified developmental, regulatory and commercial achievements. In addition, for ten years following the first commercial sale of any commercialized product containing LYT-100, Auspex is eligible to receive low to middle single-digit royalties on the worldwide net sales of such product.

Following our acquisition of LYT-100, we have conducted preclinical studies to validate the unpublished findings in a lymphedema model and initiated a multiple ascending dose and food effect Phase 1 clinical study trial, data from which we expect to readout in the second half of 2020. We intend to progress LYT-100 for the potential treatment of respiratory conditions and secondary lymphedema, followed by other inflammatory, fibrotic and lymphatic disorders.

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LYT-100 for Respiratory Complications that Persist Following COVID-19 Infection

COVID-19

The COVID-19 pandemic has affected tens of millions of people around the world. The virus can be deadly and there are a number of therapeutic approaches that target the acute phase of the disease. There is increasing data around the longer-term complications of COVID-19, including preliminary data regarding respiratory issues that persist. Survivors of the virus can have lung fibrosis that causes shortness of breath and other problems that could potentially last for years. In survivors, disease and invasive treatment both create fibrosis and the risk of persistently diminished lung function. Lung fibrosis can reduce the function of the lung, as observed by changes in pulmonary function tests, and can cause difficulties with activities of daily living. Clinicians are already documenting rapid progression to lung fibrosis in patients with COVID-19.

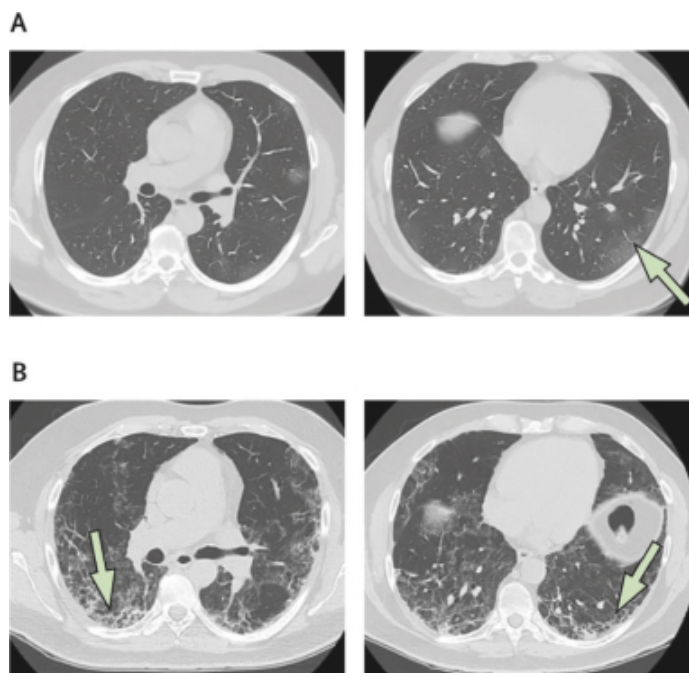


Figure X. Lung CT of a COVID-19 patient. (A) Ground glass opacities (GGO) in the left lower lobe (arrow). (B) Three weeks later, in the same lung zones, the disease has rapidly progressed and fibrotic changes are now evident (arrows). Figure from Spagnolo et al., 2020

The potential for fibrosis-mediated lung damage and the unprecedented scale of the current pandemic creates an enormous public health challenge: some patients who have recovered from the acute symptoms of COVID-19 have persistent pulmonary dysfunction. New therapeutic options are needed to address the underlying inflammation and fibrotic mechanisms that lead to respiratory complications that persist following the resolution of COVID-19 infection.

The Role of Fibrosis and Inflammation in Respiratory Complications that Persist Following the Resolution of SARS-CoV-2 (COVID-19) Infection

In COVID-19, as currently understood, the acute disease course can be modeled in three stages: first, an initial response mounted by the immune system to the virus; second, a secondary interferon-driven immune response leading to lung tissue damage; and third, a final hyperinflammation in which an inflammatory macrophage response leads to aberrant lung tissue repair and ultimately fibrosis. As the disease progresses, patients with more

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severe disease have an imbalanced macrophage population in lung tissue tilted toward inflammation and fibrosis. The immune system transitions from repelling the initial insult to repair, but inflammation can lead instead to fibrosis (Figure X). Similar disease progression has been observed in patients with acute respiratory distress syndrome, or ARDS, undergoing mechanical ventilation.

COVID-19 post-acute injuries appear to mimic respiratory complications of other viral pneumonias like Severe Acute Respiratory Syndrome, or SARS, and Middle East Respiratory Syndrome, or MERS. Up to one third of SARS and MERS survivors had abnormal pulmonary testing and lung imaging that persists for years. Post-acute injuries are hypothesized to be due to a cascade of inflammation and fibrosis that begins during the acute phase of COVID-19 and continues after the infection resolves the post-acute sequelae of the disease. A high proportion of mild, moderate and severe COVID-19 patients (up to 53 percent) already show signs of lung fibrosis at three weeks post symptom onset. Clinicians are also reporting lung fibrosis that persists beyond the acute infection, and of COVID-19 patients with pneumonia, 44 percent had fibrosis on CT imaging at 9 days post-discharge.

Fibrosis in the lungs can impair lung capacity, pulmonary function, and gas exchange. In early studies of COVID-19 patients with lung fibrosis had higher rates of shortness of breath, or dyspnea, than those without fibrosis. Emerging data from pulmonary function testing also suggest quantitative changes in COVID-19 survivors who were hospitalized. After discharge, COVID-19 patients had reduced diffusing capacity of the lung for carbon monoxide percent predicted (DLCO percent), as well as other abnormal pulmonary function tests. The observed clinical time course of COVID-19 and its similarity to SARS may suggest a limited window of recovery for the lungs, with no additional healing of fibrotic lesions or diffusing capacity after a year. Similarly, patients who survive the acute phase of ARDS may either suffer from lingering long-term pulmonary complications or even develop progressive forms of pulmonary fibrosis. We believe resolving fibrosis is important for preventing post-acute complications, and there is likely a critical window of intervention in COVID-19 and other viral pneumonias. There are no approved therapies for post-acute respiratory complications of pneumonia driven by this process, and given the scale of the ongoing pandemic, novel therapies are urgently needed.

Unmet Need

COVID-19 is causing a global crisis driven by acute illness and mortality. After the acute infection resolves, the persistent suffering by COVID-19 “long-haulers” could lead to an unprecedented public health burden. Therapeutic options are needed for COVID-19 and subsequent respiratory viral outbreaks to blunt the inflammatory and fibrotic damage and prevent disability related to lung injury. Hundreds of clinical trials of anti-viral, anti-inflammatory and immuno-modulatory and other drugs, such as hydroxychloroquine, anti-coagulants, vasodilators, anti-angiogenics and others, are under way in COVID-19 patients. Very few, if any, of these trials are designed to test interventions for longer-term respiratory complications and sequelae of COVID-19 using anti-inflammatory and antifibrotic agents. The inflammatory excess in COVID-19 patients has prompted investigations of anti-inflammatory drugs, but outside of dexamethasone in severe patients, there has been limited success. Remdesivir, an anti-viral agent previously used for Ebola and other viral infections, has been shown to be effective in reducing the time of hospitalization from COVID-19. Whether remdesivir can prevent post-acute complications is unclear.

Pharmacologic interventions are needed that targets both inflammation and fibrosis to disrupt the molecular cascade that leads to lung fibrosis and potentially permanent loss of lung function.

LYT-100 for respiratory complications that persist following COVID-19

LYT-100 is designed to employ a multimodal mechanism of action that could potentially treat or prevent the respiratory complications that persist following the resolution of COVID-19. Our pre-clinical data suggest that LYT-100 has antifibrotic and anti-inflammatory activity. LYT-100 has been observed in preclinical studies to reduce pro-inflammatory cytokines and suppress TGF- β , which is associated with downstream signaling related to fibrosis. LYT-100 (deupirfenidone) is a selectively deuterated form of pirfenidone. Pirfenidone has anti-inflammatory and anti-fibrotic properties. In animal models, it treats acute and prevents long-term lung injury, and pirfenidone slows the progression of idiopathic pulmonary fibrosis (IPF) and has been approved for the treatment of IPF in the United States and other countries. LYT-100 may have differentiated pharmacokinetic properties and activity compared to pirfenidone. LYT-100 is expected to be metabolized slower and with less

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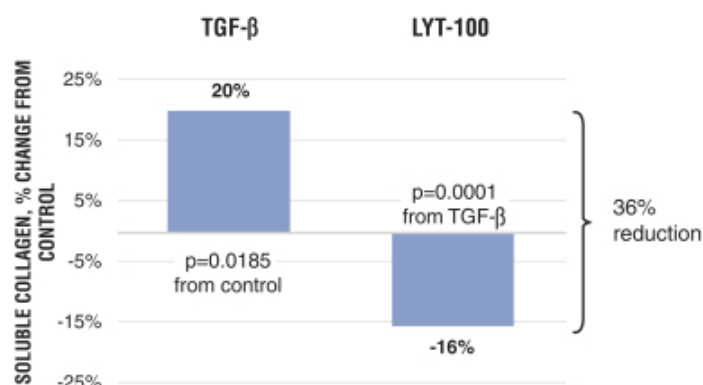
variability between patients compared with pirfenidone. These unique pharmacokinetic properties may improve the tolerability and activity of pirfenidone, while retaining the proven antifibrotic and anti-inflammatory properties that could have the potential to treat COVID-19.

Relevant Data

We believe LYT-100's potential clinical pharmacokinetics and mechanism of action make LYT-100 an attractive product candidate for addressing the respiratory complications that persist following resolution of COVID-19. In preclinical studies, LYT-100 was observed to suppress IL-6 and TNF- α in rodent lipopolysaccharide (LPS) pretreatment models, which we believe are relevant to the acute inflammation and cytokine release triggered by COVID-19 infection.

LYT-100 anti-fibrotic activity was also observed in the preclinical studies, which could be relevant to the lung fibrosis that can affect COVID-19 survivors. COVID-19 patients can progress to respiratory distress and lung damage driven by pro-inflammatory and pro-fibrotic cytokines like TGF- β . TGF- β is considered a master regulator of fibrosis (Meng et al., 2016). It is a pluripotent mediator of extracellular matrix production, which in excess can replace normal tissue with non-functioning scar tissue. The figure below illustrates results from an *in vitro* model of fibrosis with primary mouse lung fibroblasts measuring TGF- β induced soluble collagen, on the primary components of fibrotic tissue. In this study, which predated the pandemic and did not relate to COVID-19, TGF- β increased the level of soluble collagen by 20 percent ($p=0.0185$). LYT-100 inhibited this TGF- β -dependent increase by 36 percent ($p=0.0001$).

***In Vitro* Reduction of TGF- β 1 Induced Soluble Collagen Production**



Our Planned Continued Development

In May 2020, we announced plans for a global, randomized, placebo-controlled Phase 2 trial to evaluate the efficacy, safety and tolerability of LYT-100 in non-critical COVID-19 patients with respiratory complications. The trial will initially be conducted outside of the United States, and will require appropriate notifications and authorizations in those jurisdictions. We will also submit an IND to FDA, which, if approved, would allow us to enroll subjects in the United States. As currently designed and subject to review by regulatory authorities, patients will receive treatment for up to three months. The trial is expected to enroll up to 168 patients, with a primary endpoint measuring cardiopulmonary function. The trial is also currently planned to assess secondary endpoints of dyspnea and exploratory endpoints including pharmacokinetics, acute inflammatory biomarkers, imaging and patient-reported outcomes. Subject to regulatory approval, this trial is expected to begin in the third quarter of 2020, with topline results expected in second half of 2021.

LYT-100 for Lymphedema

Lymphatic Disorders

Dysfunctions of the lymphatic system have remained largely untreated or poorly addressed by current therapeutics. Diseases of the lymphatics include lymphedema, lymphatic and vascular malformations, GI

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lymphangiectasia and others. Impaired lymphatic drainage in the tumor microenvironment can promote immune escape and considerably contribute towards lymphatic metastatic spread of cancer. Additionally, we believe that neurodegenerative diseases, such as Alzheimer’s disease, or AD, and Parkinson’s disease, may be treated by correcting aging and inflammation related brain lymphatic dysfunction. There has been little progress toward the development of meaningful treatments for lymphatic diseases, and there are currently no approved drug therapies that can treat disorders such as lymphedema. We are developing LYT-100 to target the underlying fibrosis and inflammation affecting the lymphatic system to potentially improve lymphatic function and treat lymphedema.

Lymphedema is a chronic condition that afflicts millions of people globally and is characterized by severe swelling in parts of the body, typically the arms or legs, due to the build-up of lymph fluid and inflammation, fibrosis and adipose deposition. By conservative estimates, lymphedema afflicts approximately one million people in the United States. Lymph is a clear fluid collected from body tissues that transports fats and proteins from the small intestine, removes bacteria, viruses, toxins and certain proteins from tissues and supplies white blood cells, specifically lymphocytes, to the bloodstream to help fight infections and other diseases. Secondary lymphedema is the most prevalent form of lymphedema. Secondary lymphedema can develop after surgery, infection or trauma, and is frequently caused by cancer, cancer treatments such as radiation and chemotherapy, trauma or infections resulting in damage to or the removal of lymph nodes.

Lymphedema is a serious disease with significant health consequences, including disfigurement. Lymphedema typically progresses through multiple stages, with increased fibrosis, limb volume and tissue changes. Approximately one million people in the United States have lymphedema, including approximately 500,000 breast cancer survivors with secondary lymphedema. Each year, up to one in five of the more than 250,000 Americans estimated to be diagnosed with breast cancer and that undergo surgery will develop secondary lymphedema. Beyond breast cancer, lymphedema can occur in up to 15 percent of cancer survivors with malignancies ranging from melanoma and sarcoma. A subset of lymphedema patients will also experience cellulitis, a bacterial skin infection that can enter through wounds in lymphedematous skin. Cellulitis often requires hospitalization and intravenous antibiotics to treat, and approximately half of patients with cellulitis will have recurrent episodes. Rarely, patients with chronic lymphedema may develop lymphangiosarcoma, a rare malignant tumor.

The International Society of Lymphology classifies a lymphedematous limb based on staging that describes the condition of the limb, as illustrated in the table below. Within each clinical stage, clinicians use a measurement of limb swelling to capture disease severity described as mild, moderate or severe lymphedema.

	CLINICAL STAGES OF LYMPHEDEMA		
	STAGE I	STAGE II	STAGE III
Symptoms	Limb swelling, pitting edema, limb heaviness and discomfort	Limb swelling, skin thickening, dermal fibrosis, fat deposition, non-pitting edema	Disfiguring limb swelling, hyperkeratosis, loss of skin elasticity, skin lesions and overgrowths, massive fibrosis and fat deposition, elephantiasis
Additional clinical concerns	Lifelong need for compression therapy, chronic progression, repeated infections (cellulitis, lymphangitis), elephantine skin changes, development of lymphangiosarcoma		

As lymphedema progresses into later stages, the affected limb can acquire a “woody texture” due to fibrosis. In addition to clinical staging, clinicians use a measurement of limb swelling to capture disease severity. For upper limb lymphedema, a relative limb volume of five to 20 percent is considered mild, a relative limb volume of 20 to 40 percent is considered moderate and a relative limb volume greater than 40 percent is considered severe.

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Cancer treatments lead to new lymphedema patients each year, the majority of which will have mild lymphedema: over 70 percent of patients with breast cancer related upper limb lymphedema have mild to moderate lymphedema, while the remainder have moderate to severe lymphedema. We intend to initially evaluate LYT-100 in the more common mild to moderate lymphedema patient population.

The natural history of lymphedema is a chronic and progressive disorder, reflected in the increasing severity of limb swelling. The relative increase of limb volume in the affected limb compared to the unaffected limb worsens over time. It has been observed in patients with mild lymphedema that approximately 48 percent will progress to more severe stages during the first five years of follow-up. Because of the progressive nature of the disease, many patients will progress to the point where bandaging and compression are incapable of reducing limb volume. The potential loss of limb range of motion and function, the risk of secondary infections and complications and the disfigurement result in physical and emotional suffering in patients. Secondary lymphedema is a lifelong disease and the affected population is increasing each year due to improved survival of cancer patients, changes in patient and disease factors, including obesity, an aging population and increased use of radiation treatment.

Current Standard of Care

The current standard of care for lymphedema is management, primarily with compression and physical therapy to control swelling. These approaches are cumbersome, uncomfortable and non-curative, and they do not address the underlying disease, especially in patients with more severe lymphedema. Even with management, some patients will progress from mild-to-moderate lymphedema to more severe forms. Referral to current treatment regimens does not predict reversal or stabilization of lymphedema. In later stages, patients may also seek ablative surgeries, including liposuction or debulking. These surgeries reduce volume but do not restore lymphatic flow, and compression is still required to control swelling. There are currently no approved drug therapies that can treat the underlying causes of lymphedema. We believe the lack of treatments for lymphedema represents a major unmet medical need.

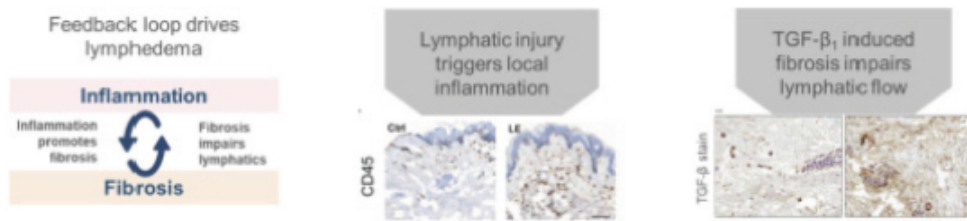
The Role of Fibrosis and Inflammation in Lymphedema

Inflammation and fibrosis play important roles in the pathophysiology of secondary lymphedema. Lymphatic injury activates chronic immune responses that promote fibrosis, reduce lymphatic flow and impair lymphatic formation. Targeting fibrosis in addition to inflammation may be a potentially effective way of ameliorating established lymphedema in patients.

The figure below depicts the feedback loop between inflammation and fibrosis driven lymphedema. The accumulation of TGF- β 1 results in increased fibrosis in tissue from patients with lymphedema. TGF- β 1 is a secreted protein that performs many cellular functions, including the control of cell growth, cell proliferation, cell differentiation and apoptosis. TGF- β 1 is a critical regulator of fibrosis, and lymphedematous tissue has increased TGF- β 1 staining. Inflammation is also present in lymphedematous limbs. Tissue samples from patients with lymphedema have increased presence of inflammatory cells. These cells can produce pro-inflammatory and pro-fibrotic cytokines, including TGF- β 1, to further the progression of lymphedema. The middle panel below shows lymphedema skin biopsy samples from lymphedematous and normal limbs of patients. Lymphedema skin samples showed increased immune infiltrate as evidenced by elevated levels of CD45+ immune cells in immunohistochemical staining. As shown in the right panel below, lymphedema skin biopsy samples from lymphedematous and normal limbs of patients show increased intracellular TGF- β 1 staining in immunohistochemical staining.

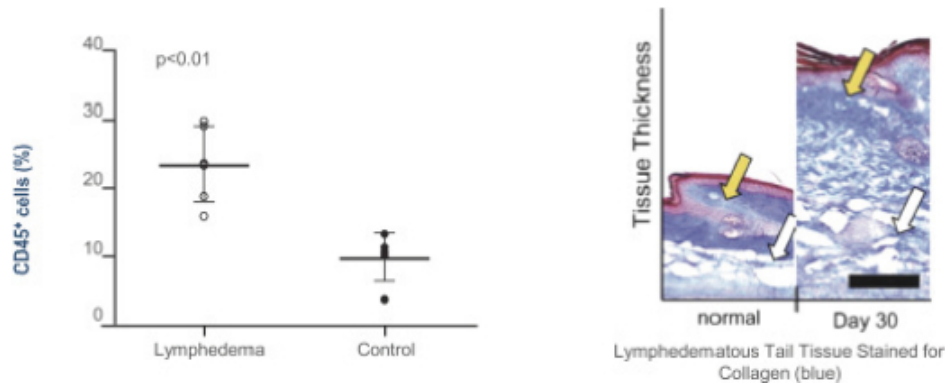
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Feedback Loop Driving Lymphedema



Accumulation of collagen and fibrosis is seen in swelling associated with lymphedema. The figure below depicts the accumulation of CD45⁺ cells in the mouse tail model of lymphedema on the left, and the increase in total tissue volume and accumulation of collagen on the right.

Accumulation of Collagen and Fibrosis in Mouse Lymphedema Model



We believe targeting the chronic inflammation and fibrosis associated with lymphedema with an oral therapy could potentially treat secondary lymphedema.

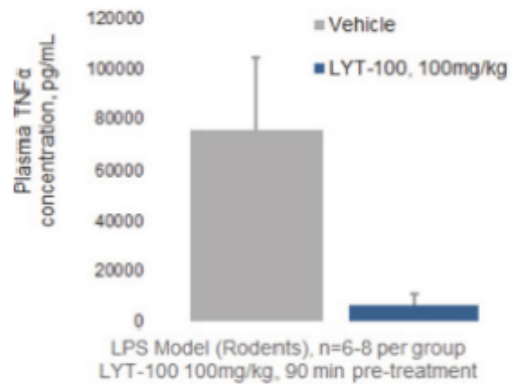
Preclinical Results

In preclinical studies, LYT-100 showed greater anti-fibrotic and anti-inflammatory activity when compared to pirfenidone.

Inflammation was also monitored in an LPS induced preclinical rodent model. The figure below illustrates the plasma concentrations of TNF- α , a pro-inflammatory cytokine and biomarker of inflammation, 90 minutes post-LPS injection. When 100 mg/kg doses of LYT-100 were administered one hour prior to LPS, TNF- α levels were 70 percent lower than those obtained using equivalent oral volumes of the vehicle control in this study.

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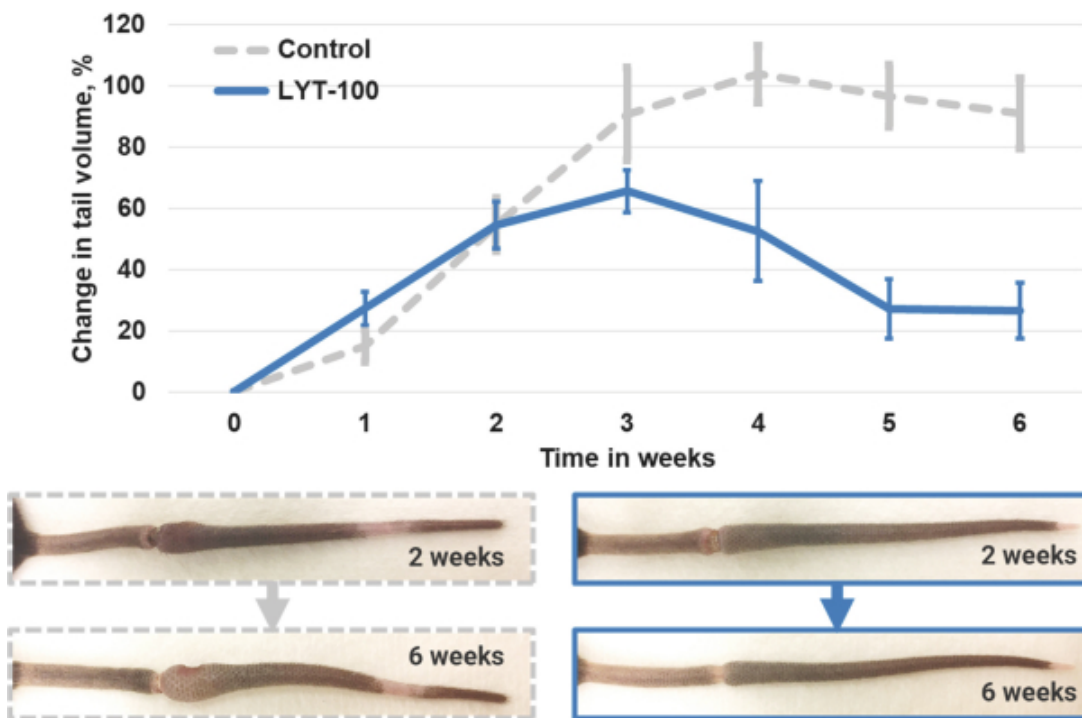
Preclinical Plasma Concentrations of TNF- α with LYT-100 versus Control



Additionally, a functional analog of LYT-100 was tested by one of our academic collaborators in a rodent tail model of lymphedema. In this model, the lymphatics draining the tail are surgically damaged, resulting in tail swelling, inflammation and fibrosis mimicking human limb lymphedema. In the figures shown below, a control vehicle substance or a functional analog of LYT-100 was administered daily at a dose of 400 mg/kg orally starting two weeks after surgery, when the tail has already begun the process of lymphedema (n=7 per group). LYT-100 treatment halted progression of lymphedema and reduced the overall volume of the lymphedematous tail. Control animals continued to have increases in tail volumes and have double the tail volume by Week 4. In contrast, the LYT-100 group had a 71 percent decrease in tail volume compared to control by Week 6, nearly returning the tail volume back to the presurgical baseline. Representative tail images from both groups at 2 weeks and 6 weeks are shown below.

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LYT-100 versus Control in Lymphedema Mouse Model



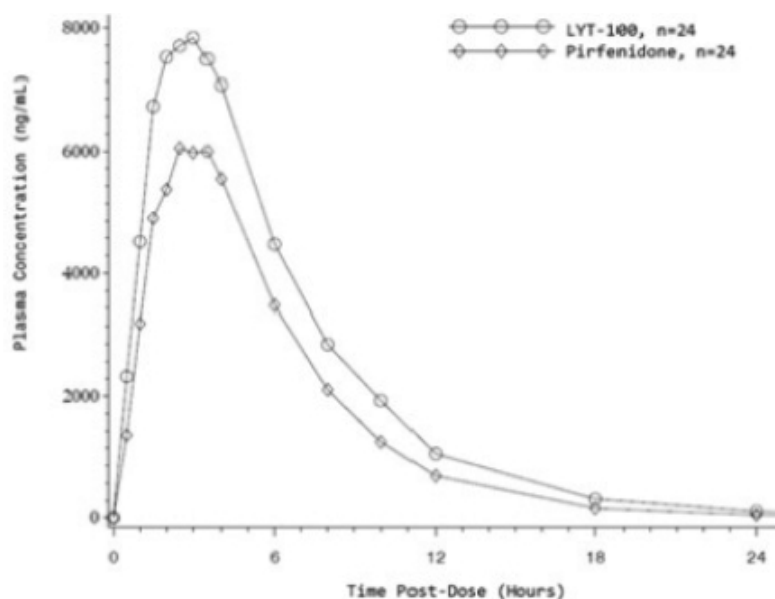
Fibroadipose Thickness Measured in Functional Analog of LYT-100 versus Control in Lymphedema Mouse Model

Clinical Results

LYT-100 is being studied in a single dose crossover Phase 1 clinical trial of 24 healthy volunteers to assess safety and PK. The figure below illustrates single-dose PK at a 801 mg dose of LYT-100 and 801 mg dose of pirfenidone over 24 hours. LYT-100 has an approximately 35 percent increase in area under the curve systemic exposure and a 25 percent increase in C_{Max} relative to pirfenidone in this study. These results demonstrate that LYT-100 displays improved PK relative to pirfenidone and suggest the possibility of twice-daily dosing of LYT-100 in patients with lymphedema. In addition, LYT-100 was well-tolerated and there were no SAEs observed in the Phase 1 clinical trial of healthy volunteers.

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24 Hour Single-Dose PK Profile of 801 mg of LYT-100 versus 801 mg of Pirfenidone



Our Planned Continued Development

In March 2020, we announced the initiation of a multiple ascending dose study of LYT-100 to evaluate the safety, tolerability and PK profile of LYT-100 in healthy volunteers. Results from this trial are anticipated the second half of 2020, and a subsequent POC trial in people with breast cancer-related, upper limb secondary lymphedema is expected to begin in the second half of 2020 with topline results expected in the second half of 2021. For this POC study, we plan to recruit patients with mild-to-moderate lymphedema of the arm. The primary endpoint of the patient study will be safety of LYT-100. As secondary endpoints, we will also study outcome measures of lymphedema, including relative limb volume, bioimpedance spectroscopy – a measure of extracellular fluid change, tonometry, a measure of fibrosis, and serum levels of inflammatory and fibrotic factors. The study may also examine patient reported outcomes using validated self-report instruments specific to upper-arm lymphedema. The study will not evaluate statistical significance versus placebo, as we expect to use data from the study to inform future clinical protocols, including future efficacy endpoints.

We plan to pursue the foreign regulatory approvals needed to conduct the anticipated studies. We may seek FDA approval of LYT-100 using Section 505(b)(2) of the Federal Food, Drug, and Cosmetic Act, which allows the submission of an NDA that relies in part on the FDA’s prior findings regarding the safety and effectiveness of approved drugs, which, if we are able to use this pathway, could expedite the development program for LYT-100 by potentially decreasing the overall scope of clinical data that we are required to present to support our application for the approval of LYT-100 in secondary lymphedema.

LYT-100 and the Treatment of Other Fibrosis and Inflammation-Related Diseases

Fibrosis and inflammation are a common mechanism across several lung diseases. There are acute diseases with high mortality or that lead to long-term fibrosis; chronic diseases linked to a specific cause, like a virus or autoimmune disease; and diseases like IPF, where the cause is less clear. In a large percentage of these various lung conditions, there are no approved treatments that address inflammation and fibrosis of the lungs. Many of these diseases can increase the risk for worsening of lung fibrosis, and there is a clear unmet need to stop inflammation and fibrosis and to preserve lung function. Even in IPF, for which pirfenidone is approved, high

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unmet need exists given pirfenidone's dosing schedule and unfavorable tolerability profile which often leads to dose reduction or treatment discontinuation. Despite these unmet needs, pirfenidone sales peaked above \$1 billion in 2018 and 2019.

We plan to explore applications of LYT-100 where the anti-inflammatory and anti-fibrotic activity of pirfenidone has demonstrated clinical and preclinical activity, including IPF where pirfenidone is already approved for use, and other ILDs. There are serious limitations in the clinical use of pirfenidone in IPF and interstitial lung disease. Pirfenidone requires frequent dosing, which results in high peak to trough fluctuations in plasma concentrations, and side-effects leading to a >25 percent treatment discontinuation rate. In Phase 3 studies, 77 percent of patients taking pirfenidone had dose interruptions or reductions because of AEs. The real-world evidence of pirfenidone use also highlights tolerability issues: in a large, multinational post-marketing study, 73 percent of patients experienced an AE, including 38 percent with GI symptoms, leading to a high discontinuation rate. The most common AEs of pirfenidone included GI symptoms (nausea, diarrhea, dyspepsia, vomiting), fatigue, rash, and photosensitivity reactions. Additionally, reversible elevations in liver enzymes were seen in a small proportion of patients, as were dizziness and weight loss. Thus, despite an intriguing mechanism of action, pirfenidone has PK shortcomings that may limit its use in IPF and other ILDs. A therapeutic compound which improves upon metabolism and dose exposure of pirfenidone, while retaining or exceeding its efficacy, would be an attractive therapeutic option for interstitial lung diseases. LYT-100 has demonstrated anti-fibrotic and anti-inflammatory activity with superior PK that has the potential for improved dosing, safety, and efficacy compared to pirfenidone.

Because of our insight into how inflammation and fibrosis affect lymphatic flow, we also plan to explore the application of LYT-100 in other lymphatic flow conditions. Millions of patients have lymphedema beyond breast cancer-related arm lymphedema and we believe LYT-100 may have potential to target the underlying mechanisms of other forms of secondary or primary lymphedema. We may also explore the potential use of LYT-100 in other inflammatory and fibrotic diseases including FSGS, a rare, progressive kidney disease that can lead to kidney failure and dialysis. An estimated more than 4,500 individuals in the United States develop FSGS every year, and there are no specific treatments designed to reduce fibrosis and inflammation in this disease. Treatment with immunosuppression is symptomatic and often does not prevent relapse and progression to end-stage renal disease. LYT-100's anti-fibrotic activity suggests the potential to target kidney fibrosis in FSGS and provide a novel treatment for this disorder.

LYT-100 and the Treatment of Brain and CNS Lymphatic-Related Disease

The lymphatic system is an important part of the immune system, GI system and CNS. Loss of lymphatic flow can play a critical role in diseases of these systems. We believe LYT-100, if successfully developed and approved, has the potential to address serious diseases of lymphatic flow.

One of our academic collaborators discovered a functional lymphatic system in the meninges of the brain that forms the basis of our meningeal lymphatics discovery research program. These meningeal lymphatics have been described as the "brain drain," a route through which macromolecules are flushed from the brain in cerebrospinal fluid. Among the macromolecules that are drained via the lymphatics are pathogenic macromolecules such as amyloid-beta and tau, which are both associated with AD pathology, as well as alpha-synuclein, which is associated with Parkinson's disease. Blocking the lymphatic flow increases levels of these molecules in the brain. In animal models of AD, AD-associated tauopathies and Parkinson's disease, blockade of meningeal lymphatic flow significantly exacerbated disease progression and severity and improving flow through aged meningeal lymphatics improved cognitive brain function in these animal models. With aging, the lymphatic vessels that drain the brain become dysfunctional and no longer drain as efficiently. The "lymphedematous characteristics" of meningeal lymphatic vessels in aged animals might be leading to inefficient clearance of pathologic macromolecules and potentially increase risk for neurodegenerative diseases. Restoration of lymphatic flow may then be a novel class of therapies for neurodegeneration, and we believe that augmenting meningeal lymphatic vasculature function may potentially improve outcomes for a range of neurodegenerative and neuroinflammatory conditions that are not currently effectively treated.

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We are exploring multiple ways of altering lymphatic flow, both in the CNS and other parts of the body. Starting with LYT-100, we will continue to develop novel therapeutic candidates that target inflammation, fibrosis and other mechanisms that impair lymphatic flow. We also have ongoing discovery efforts to explore new mechanisms with the goal to advance, in-license and/or acquire assets that we can develop for diseases of lymphatic flow. We will use our network of collaborators and internal expertise in lymphatics to actively discover and develop novel solutions for diseases of the lymphatic system, including rare lymphatic diseases.

The FDA and corresponding regulatory authorities will ultimately review our clinical results and determine whether our Wholly Owned product candidates are safe and effective. No regulatory agency has made any such determination that LYT-100 is safe or effective for use by the general public for any indication.

LYT-200 & LYT-210: Targeting Immunosuppressive and Pathogenic Lymphocytes to Treat Intractable Cancers and Immunological Disorders

Hallmarks of cancer include dysregulated growth driven by both cellular oncogenes as well as the intratumoral microenvironment and local and systemic failures of the immune system to recognize cancer and mount an anti-tumor response. In cancer, a complex interaction of the tumor, tumor microenvironment and immune cells creates an immunosuppressive state, allowing cancer to evade the effects of many therapies as well as the attack of cytotoxic immune cells. Tumors can often express immunosuppressive factors, such as cell surface checkpoint molecules. For example, programmed death-ligand 1, or PD-L1, is a type of checkpoint overexpressed by cancer cells that suppress T cells, an important type of immune cell that normally responds to infections or cancer.

A class of therapies known as checkpoint inhibitors has been developed to counteract tumor defenses against the immune system and includes therapies that target programmed cell death protein 1, or PD-1, PD-L1 and cytotoxic T-lymphocyte-associated antigen 4, or CTLA-4. These marketed drugs have demonstrated encouraging clinical responses and durable benefit across a number of cancers and according to EvaluatePharma had sales exceeding \$16 billion in 2018. Unfortunately, a great proportion of patients still do not respond or respond suboptimally to approved checkpoint inhibitors. In immunologically silent tumors such as pancreatic cancer, CRC and CCA, little, if any, efficacy has been seen to date with any of these agents. In the United States, there are approximately 57,000 new pancreatic cancer patients, of which 50 percent present with metastatic disease, approximately 146,000 new CRC patients, of which 35 percent present with metastatic disease, and approximately 8,000 new CCA patients, of which 50 percent present with metastatic disease, per year, representing a significant patient population that has yet to receive benefit from any immuno-therapy agents.

In order to identify assets with the potential to provide significant therapeutic benefit to cancer patients, we undertook a global, proactive search to discover important new scientific insights and technologies that could address the challenge of multiple mechanisms of immunosuppression in current therapeutics. During this search, we employed the following criteria:

- Aim to avoid targets where others were developing drugs;
- Address multiple pathways of immunosuppression via key immunological nodes;
- Attempt to develop therapies for solid tumors where existing treatments are limited, including solid tumors where checkpoint inhibitors have failed;
- Identify targets where therapeutic intervention has the potential for both single-agent activity and the potential to be used in combination with other immuno-oncology, and more broadly, other anti-cancer agents;
- Represent targets whose underlying biology enables them to have a favorable therapeutic window and a favorable safety margin;
- Achieve significant preclinical validation;

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- Focus on targets whose higher levels are associated with aggressive diseases and poorer outcomes in people; and
- Focus on targets where mAbs could be effective.

Based on these criteria, and through our extensive network of advisors and collaborators, we identified two foundational immunosuppressive mechanisms involving galectin-9 and immunosuppressive gd1 T cells, which are the basis of developing LYT-200 and LYT-210, respectively, and which fulfill the above criteria for a potentially clinically beneficial, novel immuno-oncology agent.

LYT-200: Our Immuno-oncology Product Candidate Targeting Galectin-9, in Development for the Treatment of Solid Tumors

LYT-200 is a fully human IgG4 mAb that is designed to block galectin-9, which we are developing for the treatment of solid tumors, including pancreatic ductal adenocarcinoma, or PDAC, CRC and CCA, that do not respond to approved checkpoint inhibitors and have poor survival rates. We anticipate filing an IND for LYT-200 and initiating a Phase 1 study in solid tumors in 2020, with results anticipated in 2021.

We believe LYT-200 could meet the criteria that we set out in defining a potential immuno-oncology therapeutic because:

- Galectin-9 promotes and facilitates multiple immunosuppressive pathways by, for example, expanding regulatory T cells, shifting macrophages from the M1 to M2 phenotype, and inducing apoptosis of activated CD4⁺ and CD8⁺ T cells.
- High expression of galectin-9 is evident in tumors and in cancer patients' blood, and correlates with poor survival outcomes and aggressive disease in multiple solid tumor types.
- In order to assess the effects of LYT-200 in murine models of cancer, a mouse monoclonal antibody, which we refer to as mIgG1-200, that targets the same epitope on galectin-9 was developed. A mouse IgG1 isotype has blocking function similar to the human IgG4 isotype. Preclinical evidence we generated has confirmed that mIgG1-200 is efficacious in inhibiting tumor growth in pancreatic cancer (KPC) and melanoma (B16F10) mouse models of cancer. We have used mIgG1-200 as single agent in both the pancreatic cancer (KPC) and the melanoma (B16F10) mouse models of cancer. In both of these models, compared to control we saw a significant tumor growth reduction. Equally, in the KPC model we observed that administration of LYT-200 both as a single agent, and in combination with chemotherapy (gemcitabine/nab-paclitaxel), significantly prolonged survival of pancreatic tumor bearing mice, compared to control, while chemotherapy alone did not give a significant prolongation of survival compared to control animals.
- LYT-200 also activated effector T cells in *ex vivo* models of patient derived tumor organoids (PDOTs) in multiple tumor types (pancreatic cancer, colon cancer, cholangiocarcinoma, etc.).
- While elevated in the context of cancer, galectin-9 has low expression under normal physiological conditions which indicates a potential safety window which has been further supported by the lack of tolerability concerns to date in our good laboratory practice, or GLP, studies with LYT-200 even at extremely high doses, such as 300 mg/kg in non-human primates (~100 mg/kg human equivalent dose).
- Other companies, to our knowledge, do not have clinical development programs around galectin-9 as a therapeutic target, and LYT-200 would represent a potentially innovative therapeutic. None of the other human galectins have been documented to play such a global role in immunosuppression in the context of cancer which galectin-9 plays; and
- We believe that LYT-200 may be used as a single agent and safely in combination with checkpoint inhibitors and other systemic cancer treatments.

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Galectin-9 has a unique capacity to switch off a multitude of immune mechanisms that would otherwise engage in fighting cancer; therefore, targeting this molecule has the potential to restore the immune system's ability to attack cancer.

Galectin-9 functions through multiple pathways by binding to carbohydrate motifs on cell surface molecules and receptors. It plays a critical regulatory role in immune cell response and homeostasis, and mediates immunoregulatory activities in several ways. Binding of galectin-9 to T cell immunoglobulin and mucin-domain containing-3, or TIM-3 for example, induces cell death of terminally differentiated TIM-3+ T helper cell, or Th1 and cluster of differentiation, or CD, 8+ T cells, as well as apoptosis of CD4+ Th1 cells. Galectin-9 binds to CD44 and cooperates with transforming growth factor beta, or TGF- β , to promote T regulatory, or Treg, cell differentiation. Galectin-9 also favors expansion of immunosuppressive myeloid derived suppressor cells, or MDSCs, in the overall promotion of Th2/M2 differentiation, which ultimately favors tumor progression. Galectin-9 also functions to reduce the development of Th17 cells, and is immunomodulatory on tumor associated macrophages. Taking all this into consideration, galectin-9 is considered a potent mediator of cancer-associated immunosuppression.

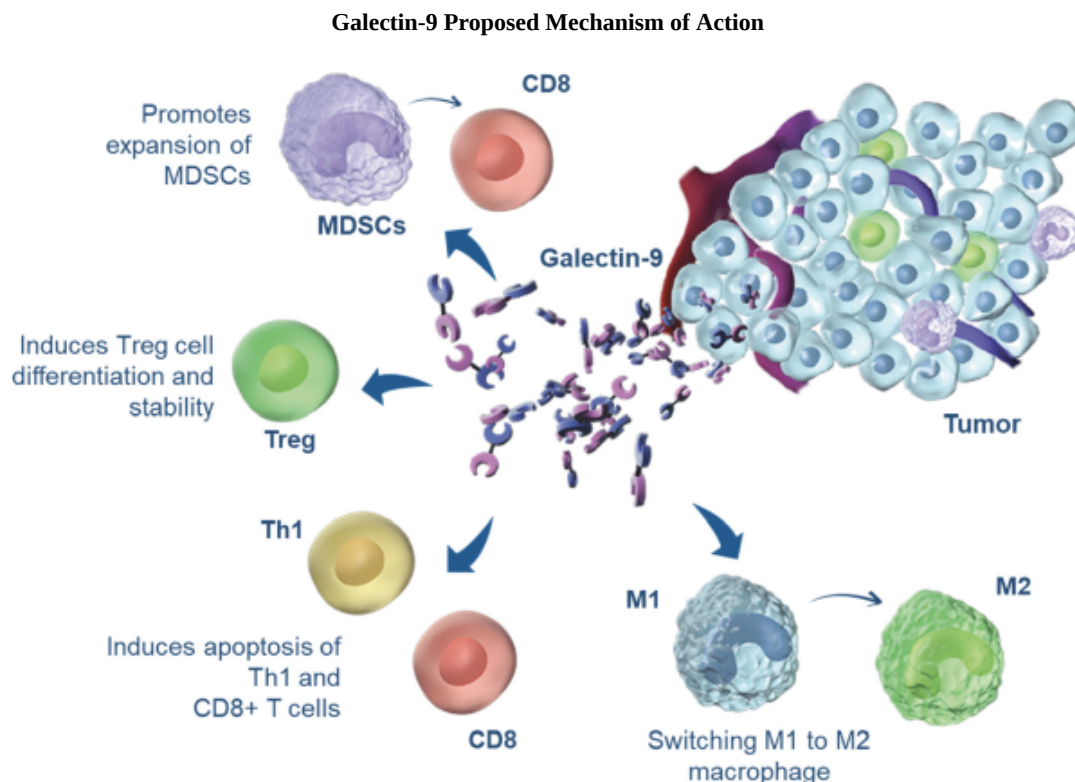


Image adapted from J Mol Biol; 428 (16): 3266-3281; 2016 Treg = T regulatory cell; MDSC = myeloid derived suppressor cell; M1/M2 = tumor associated macrophage (TAM)1 (immunoactive) and 2 (immunosuppressed) cell; Th1 = T helper1 cell

High levels of tissue and/or circulating galectin-9 correlate with aggressive tumor features and adverse survival outcome in many tumor types. For example, galectin-9 levels are significantly increased in metastatic melanoma patient plasma, correlating with Th2 systemic bias and less favorable two-year clinical survival outcome. Galectin-9 is also highly expressed in human PDAC compared with normal pancreas tissue and present on both tumor and intratumoral immune cells. Moreover, high serum concentration of galectin-9 may be able to

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discriminate PDAC from benign pancreatic disease and healthy individuals and is potentially prognostic for stage IV patients. Plasma levels of galectin-9 are associated with a worse overall and disease-free survival, as well as chemoresistance, in ovarian cancer patients. In gastric cancer, patients with galectin-9 positive tumors have significantly lower overall and gastric cancer-specific mortalities. In yet another gastrointestinal tumor type, CRC, galectin-9 markedly inhibits the cytotoxicity of the gamma delta T cells towards colon cancer cells, indicating its immune-suppressive mechanism of action. In muscle invasive bladder cancer, tumor-associated macrophages expressing galectin-9 are associated increasing numbers of Treg cells and decreasing numbers of CD8 T and dendritic cells, indicating an immunosuppressed microenvironment, that in turn translates to increased tumor grade/stage and galectin-9 positive tumors with poor prognosis.

In nasopharyngeal carcinoma, or NPC, significant increase in the expression of galectin-9 positive tumor cells, with concomitant increase in Treg cells and decrease in CD8 T cells, is observed in recurrent tumor tissues, indicating that galectin-9 confers immunologic escape in NPC.

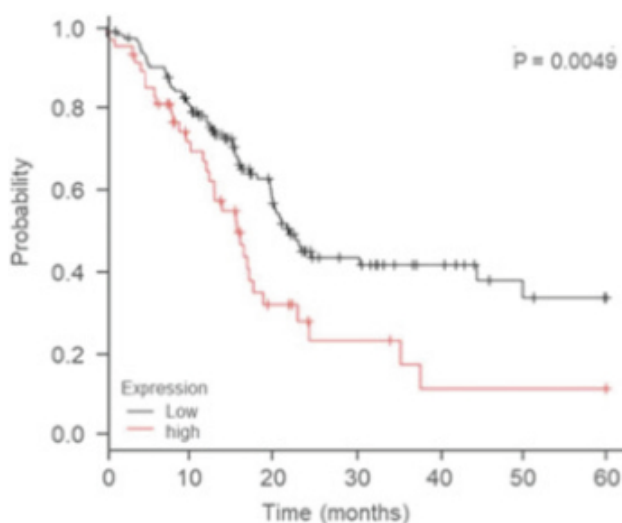
High galectin-9 expression is highly correlated with expression of immune checkpoint molecules, M2 tumor-associated macrophages in the mesenchymal subtype of glioblastoma multiforme and in small cell lung cancer correlates with high levels of neuron specific enolase and shorter survival. In breast cancer, surface galectin-9 protects carcinoma cells against cytotoxic T cell-induced death, while in non-small cell lung cancer, or NSCLC, there is a co-expression between galectin-9 and PD-L1, with high galectin-9 expression on immune cells correlating with early disease relapse. Moreover, early accumulation of MDSCs expressing galectin-9 in NSCLC is associated with primary and secondary resistance to anti-PD-1 treatment.

Collectively, these data, across multiple solid tumor types, may support the use of LYT-200 in relapsed/refractory, metastatic solid tumors.

In basal physiological conditions, galectin-9 is weakly expressed in most tissues, with some abundance in the thymus and kidney.

For example, the figure below illustrates the correlation between galectin-9 messenger ribonucleic acid, or mRNA, levels and decreased overall survival in pancreatic cancer. As shown below, high mRNA levels of galectin-9 in pancreatic cancer correlate to significantly shorter overall survival at five years, as represented by the red curve, compared to lower mRNA levels of galectin-9.

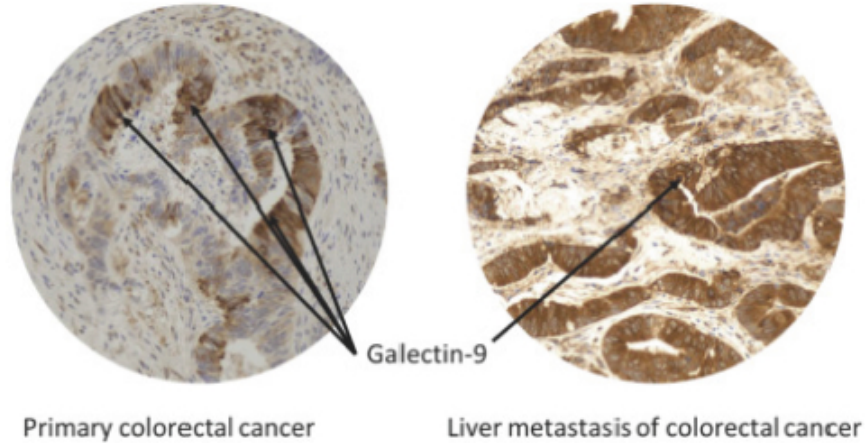
mRNA Levels of Galectin-9 in Pancreatic Cancer



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The figure below shows immunohistochemistry, or IHC, expression of galectin-9 in primary CRC and CRC liver metastasis. In staining of CRC samples with a reagent galectin-9 antibody, we observed high galectin-9 expression at the cell membrane and in the cytoplasm, both at the site of the primary tumor and the metastatic deposit.

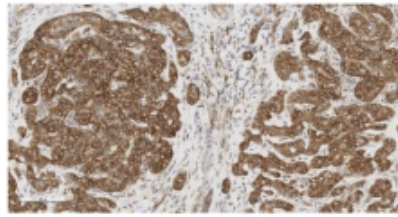
Observed Galectin-9 Expression in CRC



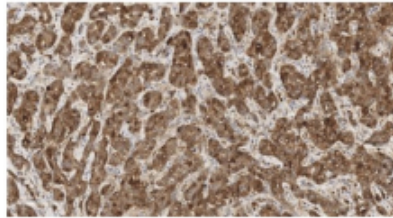
Additionally, data below represents staining patterns of galectin-9 in pancreatic cancer tissues, and we have observed the same IHC pattern in breast cancer and CCA as well. Namely, a variety of tumor types were assessed for the presence of galectin-9 using IHC of formalin-fixed, paraffin-embedded, or FFPE tissue samples. Over 1,000 samples of breast cancer, 141 samples of PDAC, and 99 samples of intrahepatic CCA, with available clinicopathologic information, were examined. Figures below show that strong and moderate tumor staining were associated with membranous expression of galectin-9 ($p=0.004$), and the tumors with strong expression correlated with worse outcomes. Strong galectin-9 expression conferred worse relapse free survival ($p=0.052$) and worse overall survival ($p=0.044$) in CCA.

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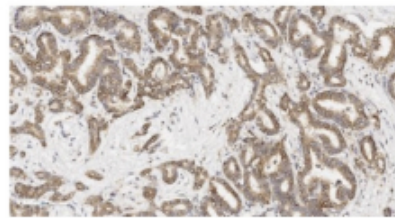
Representative IHC Staining of Galectin-9 in CCA



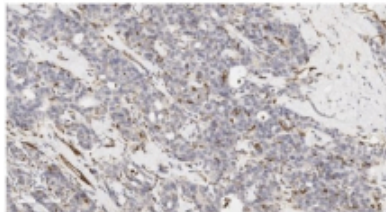
Strong cytoplasmic and membrane expression in tumor.



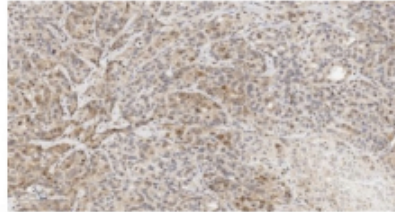
Strong cytoplasmic expression in tumor.



Moderate cytoplasmic expression in tumor.

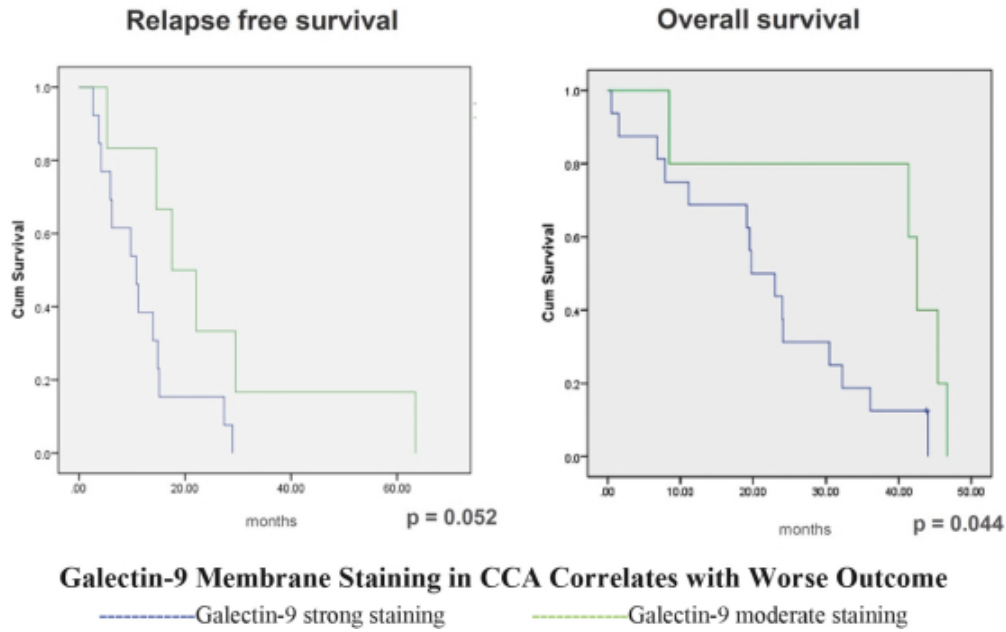


Negative tumor cells. Moderate density immune cells (2+)



Weak cytoplasmic expression in tumor.

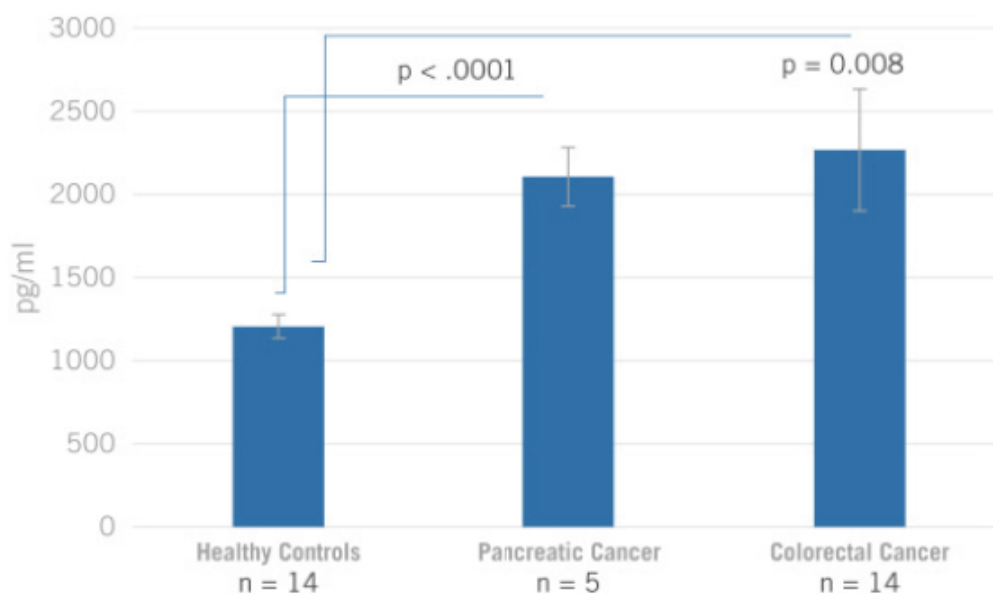
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Additionally, we can detect galectin-9 levels in cancer patient blood which are much higher than in healthy individuals. The figure below depicts blood serum samples from 14 healthy subjects, 14 CRC and five pancreatic cancer patients that were evaluated for galectin-9 levels. Serum galectin-9 levels were measured using commercially available ELISA kits specifically for detection of human galectin-9. The data show increased galectin-9 levels in the serum of cancer patients compared to healthy subject controls. This assay indicates that galectin-9 overexpression occurs not only in cancer tissues but also in the blood of cancer patients.

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Serum Galectin-9 Levels in Various Populations



Preclinical Results

Specifically, the binding affinity of LYT-200 to the C-terminal carbohydrate domain 2, or CRD2 and the non-binding CRD1 domains of mouse, rat, cynomolgus monkey and human galectin-9 was determined utilizing the Dynabead system (Invitrogen, ThermoFisher Scientific). Studies were conducted to assess cross species affinity to the CRD2 domain of galectin-9.

LYT-200 has been observed to have no cross-reactivity with other galectins, and exhibits good thermostability, storage stability and the ability to be purified.

K_{Dapp} (nM) of LYT-200 to Galectin-9 Carbohydrate Domains

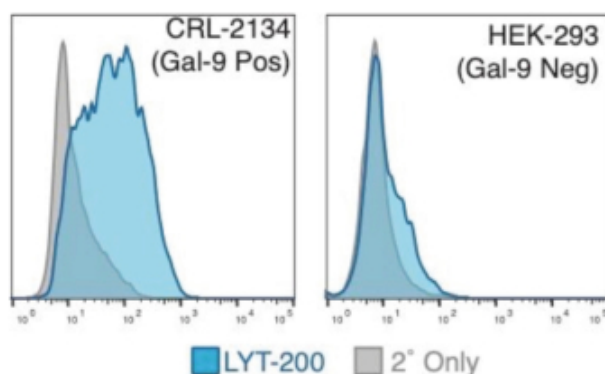
<u>Species</u>	<u>Galectin-9 Carbohydrate Domain</u>	<u>LYT-200</u>
Human	CRD1	No binding
Human	CRD2	0.33 ± 0.07
Mouse	CRD2	0.42 ± 0.04
Rat	CRD2	1.28 ± 0.06
Cynomolgus Monkey	CRD2	0.31 ± 0.03

The binding affinity of LYT-200 to CRD2 domain was similar and in the low nanomolar range between human, mouse and monkey models and three to four times weaker in the rat model although still within low nanomolar range. LYT-200 and mIgG1-200 share the same antibody variable region, and as a result have comparable binding affinities for the CRD2 domain of galectin-9 across the four species tested. Furthermore, both monoclonal antibodies are specific for the CRD2 domain, as no binding was detected to the CRD1 domain of human galectin-9.

Binding affinity of LYT-200 to cell surface galectin-9 was determined using human colon cancer cells (left panel; CRL-2134 cells) and a galectin-9 negative cell line (right panel; HEK-293 cells). Based on these saturation curves, a cell-based K_D for LYT-200 was determined to be 0.41 ± 0.07 nM.

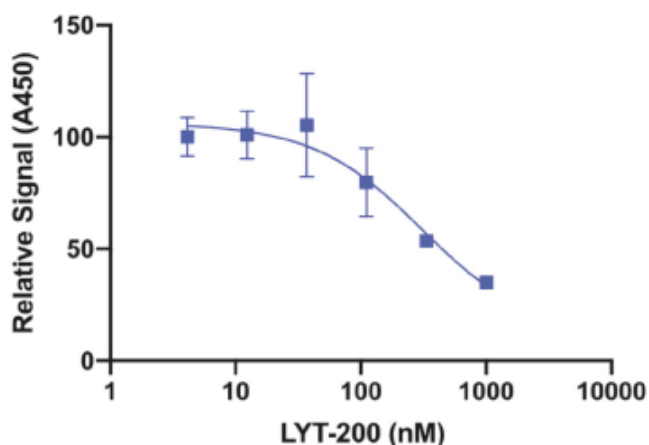
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Comparison of LYT-200 Binding to CRL-2134 and HEK-293 Cells



We next assessed the ability of LYT-200 to block interactions with galectin-9 specific binding protein, CD206. CD206 is a receptor found on the surface of macrophages, and is a known binding protein/receptor for galectin-9. An ELISA format was used to first demonstrate that CD206 and galectin-9 are a receptor-ligand pair and secondly to show that the addition of LYT-200 could inhibit this interaction.

LYT-200 Blocks CD206-Galectin-9 Interaction in a Dose Dependent Manner



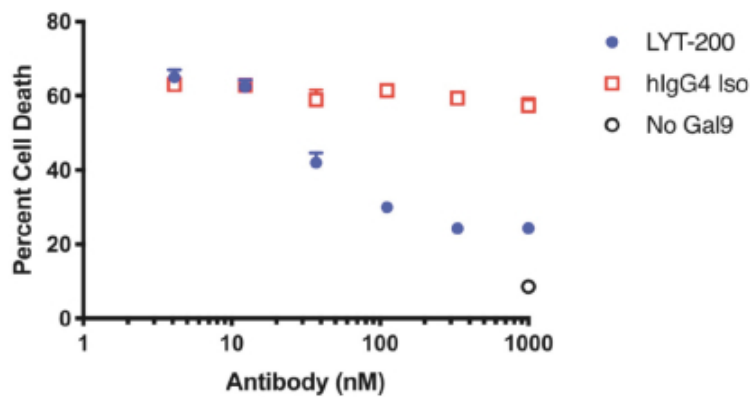
These data indicate that LYT-200 has the ability to block a functional activity of galectin-9, namely, interaction with a specific binding partner/receptor, CD206. This assay demonstrates the desired and expected blocking function of LYT-200 as the fully human IgG4 mAb.

We next observed that LYT-200 could protect T cells from galectin-9 induced apoptosis, as illustrated in the figure below. The presence of galectin-9 (red square) significantly increased cell death compared to culture in the absence of galectin-9 (black circle). The addition of LYT-200 to the culture of MOLM-13 cells in the presence of galectin-9 (blue circle) significantly reduced the observed percentage of cell death in a dose dependent manner. The IC₅₀ for this assay is approximately 60 nM galectin-9. This assay supports the desired and expected functional activity of LYT-200 in blocking galectin-9 interactions on T cells which results in T cell apoptosis as

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well as a broad ability of LYT-200 to intercept galectin-9 - receptor interactions, since T cell death does not occur through interactions with CD206.

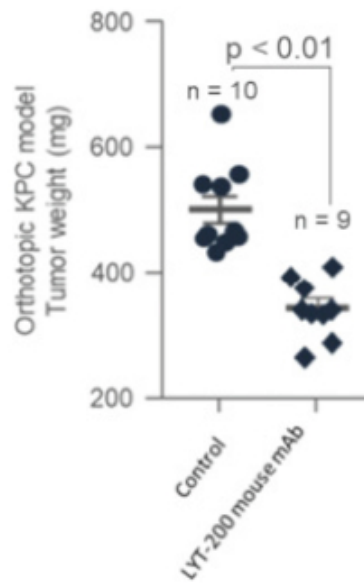
LYT-200 Protects MOLM-13 T Cells from Galectin-9-Mediate Apoptosis



The orthotopic KPC mouse model is commonly used as a preclinical model for evaluating PDAC biology and therapeutic agent efficacy. Our academic collaborator previously showed that blocking galectin-9 with a murine galectin-9 antibody demonstrated significantly extended survival in a mouse KPC pancreatic cancer model. Anti-PD-1 checkpoint inhibitors have previously proven ineffective in this xenograft model. As noted previously, to further characterize the potential of LYT-200, we created a mouse LYT-200, or mIgG1-200, by cloning the antigen binding domain of LYT-200 into a murine antibody backbone. We confirmed this observation of single agent activity in the KPC mouse pancreatic cancer model illustrated in the figure below. We have also combined mIgG1-200 with the standard of care for pancreatic cancer, (e.g., chemotherapy, gemcitabine/nab-paclitaxel) in the KPC model and shown that both as a single agent and in combination, mIgG1-200 extends the life of mice bearing pancreatic cancer.

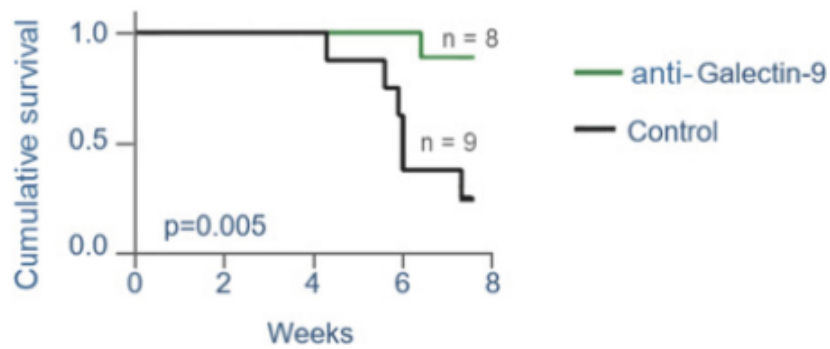
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LYT-200 Mouse mAb Activity in Orthotopic Pancreatic Cancer KPC Model



We also observed clear improvement in survival of these animals treated with LYT-200 mouse mAb, indicated as anti-galectin-9, versus controls ($p=0.005$), as illustrated in the figure below.

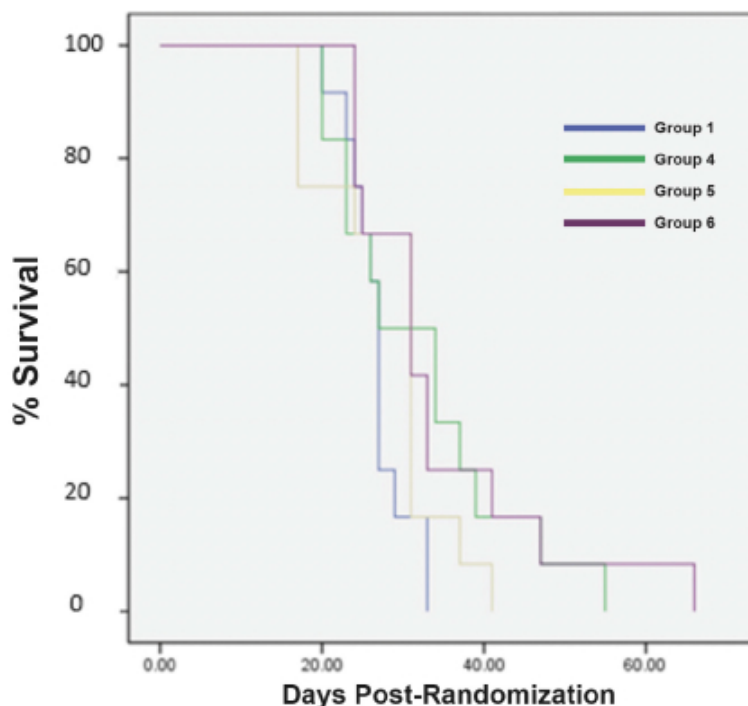
Targeting Galectin-9 and Survival in KPC Pancreatic Cancer Mouse Model



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Effect of LYT-200 on Survival of Mice Implanted with Orthotopic Pancreatic Tumors

Kaplan Meier Survival Curve



Group 1: Untreated; Group 4: mIgG1-200 (200mg); Group 5: gemcitabine (50 mg/kg) plus Abraxane (15 mg/kg); Group 6: Combination of mIgG1-200 and gemcitabine+Abraxane at same doses. A significant survival benefit was delivered by treatment with mIgG1-200 alone, compared to the untreated controls (Group 4 versus Group 1: Hazard Ratio (HR)=0.348, 95%CI= (0.146, 0.83), p=0.017). The combination treatment provided an additional survival benefit over untreated animals (Group 6 vs Group 1: HR=0.336, 95% CI= (0.14, 0.806), p=0.015)

Cox Regression Analysis: Groups 4, 5 & 6 against Group 1

<u>Group</u>	<u>P-value</u>	<u>HR</u>	<u>HR(95%CI)</u>
4	0.017	0.348	(0.146, 0.83)
5	0.262	0.624	(0.274, 1.422)
6	0.015	0.336	(0.14, 0.806)

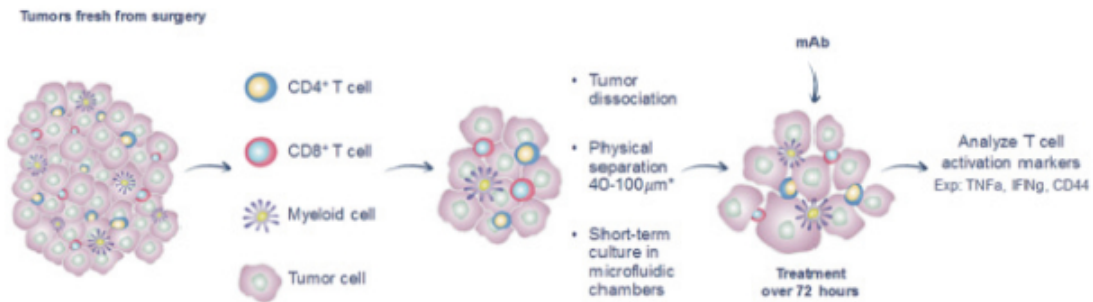
We also explored the activity of mIgG1-200 in a B16F10 melanoma mouse model, a model commonly used to assess the activity of checkpoint inhibitors. mIgG1-200 reduced mean tumor weights by ~50 percent while an anti-PD-1 antibody reduced mean tumor weights by ~22 percent. We also observed that when an anti-PD-1 antibody was used in conjunction with mIgG1-200, there was doubling of cytotoxic T cells in the tumor in the melanoma model.

One of the major challenges in oncology research is the translation from mouse models to humans, particularly in the case of immuno-oncology. To address this concern, we tested LYT-200 in PDOT cultures that mimic human tumor physiology and tumor microenvironment content. PDOTs are tumor excisions from primary and metastatic

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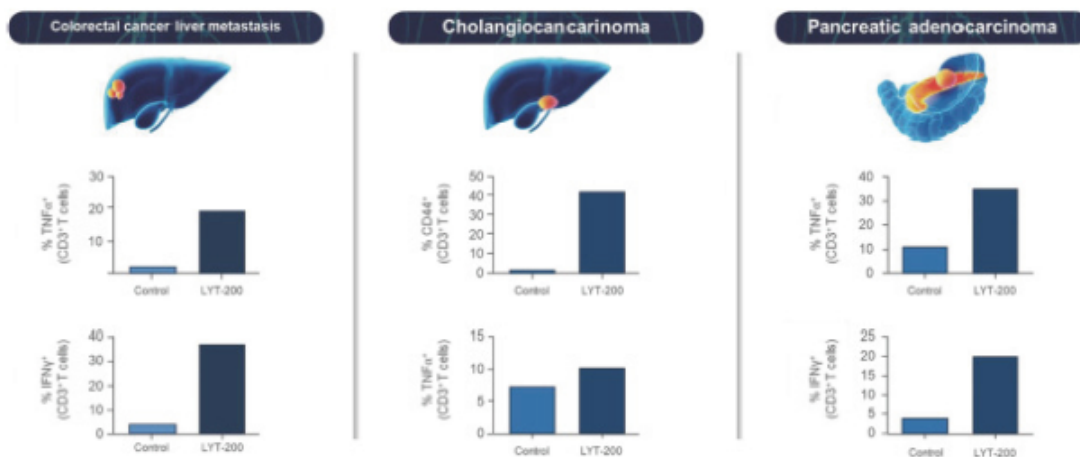
sites from pancreatic adenocarcinoma, or PDAC, CRC, CCA, hepatocellular carcinoma and neuroendocrine tumors of the GI tract. Since the immune system within the tumor microenvironment is suppressed, the aim of treating PDOTs was to assess LYT-200's ability to induce T cell activation which would indicate that LYT-200 could show activity in humans. We observed that LYT-200 potently and reproducibly activated T cells in 56 percent of the samples tested (n=23), which we believe is indicative of a potential high response rate in cancer types which have currently been unresponsive to checkpoint blockade or where response rates do not surpass 20 percent. The figure below depicts a patient derived organoid system.

Illustration of PDOT System



We established PDOTs from tumor tissues surgically excised from cancer patients. Organoids containing the tumor microenvironment were processed by flow cytometry to establish the percentage of galectin-9 positive cells. We treated organoids containing the tumor microenvironment with LYT-200 and measured biomarkers of T cell activation such as TNF- α , interferon γ , or IFN γ and CD44. The figure below is an example of data from 23 human tumor organoid samples. Positive response in the organoid model was defined as an increase of more than 20 percent in at least two of three measured T cell activation markers, TNF α , IFN γ and CD44.

Examples of *in vitro* T Cell Activation with LYT-200



GLP toxicology studies were carried out in Sprague Dawley rats and cynomolgus monkeys. No safety pharmacology findings attributed to LYT-200 at doses as high as 300 mg/kg/week were observed in either species.

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Our Planned Clinical Development

Our first-in-human study of LYT-200 is intended to evaluate the safety, tolerability, PK and pharmacodynamics, or PD, and identify the recommended Phase 2 dose, or RP2D, for LYT-200 further evaluation as a single agent. This trial is being designed to permit inclusion of relevant drug combinations with LYT-200 in an expansion cohort setting for the treatment of certain solid tumors, including CCA, CRC and pancreatic cancer. We expect to file an IND and initiate this trial in the second half of 2020, with results anticipated in 2021.

LYT-200 Clinical Trial Design

Our planned clinical trial of LYT-200 is a Phase 1 open label non-randomized clinical trial of LYT-200 alone or in combination with chemotherapy or an approved anti-PD-1 agent in relapsed/refractory metastatic patients.

We plan to initiate a clinical trial under a dose escalation with dose expansion protocol as per recent FDA guidelines. The dose finding part of the study will be open to all comers, metastatic cancer patients with solid tumors who have failed previous lines of treatment. We intend to identify an RP2D of LYT-200 for further evaluation as a single agent and evaluate the safety of the RP2D in combination with chemotherapy and an approved checkpoint inhibitor. After the tolerability and RP2D have been determined, we plan to proceed with expansion cohorts in pancreatic cancer, CRC and CCA as pre-planned expansion cohort tumor types. We also plan to allow subjects with other tumor types to enroll in expansion cohorts as well based on the results from the dose finding part of the trial. In the expansion cohort, we plan to assess progression free survival benefit in pancreatic cancer and effect of potential tumor shrinkage in CRC and CCA. Throughout the study we plan to collect tumor tissue samples through biopsies as well as patient blood samples. These will be used to measure galectin-9 levels as well as many other immunological and tumor biomarkers that could help us further tailor the clinical trial and identify patients that we believe have highest likelihood to benefit.

The FDA and corresponding regulatory authorities will ultimately review our clinical results and determine whether our Wholly Owned product candidates are safe and effective. No regulatory agency has made any such determination that LYT-200 is safe or effective for use by the general public for any indication.

LYT-210: Our gd1 T Cell Focused Product Candidate Targeting Immunosuppressive and Pathogenic gd1 T Cells for Immuno-Oncology

LYT-210 is a fully human IgG1 mAb directed against the d1 chain of T cells bearing gdT cell receptors, or TCRs, we are designing for antibody-dependent cell-mediated cytotoxicity and antibody-dependent cellular phagocytosis, or ADCC. Similar to LYT-200, we believe that gd1 T cells represent an important new immuno-oncology target because they:

- Activate multiple immunosuppressive pathways;
- Have expression correlated with poor outcomes for multiple solid tumor types;
- Have preclinical evidence that showed improvement in survival in the KPC pancreatic cancer mouse model where approved checkpoint inhibitors are ineffective. We have since obtained data with anti-d1 antibodies in PDOT systems;
- While elevated in the context of cancer, have low expression under normal physiological conditions which indicates a potential safety window;
- Represent an attractive target; to our knowledge, there are no other companies developing a therapeutic candidate targeting immunosuppressive and pathogenic gd1 T cells; and
- We believe are an amenable target against which to generate a mAb.

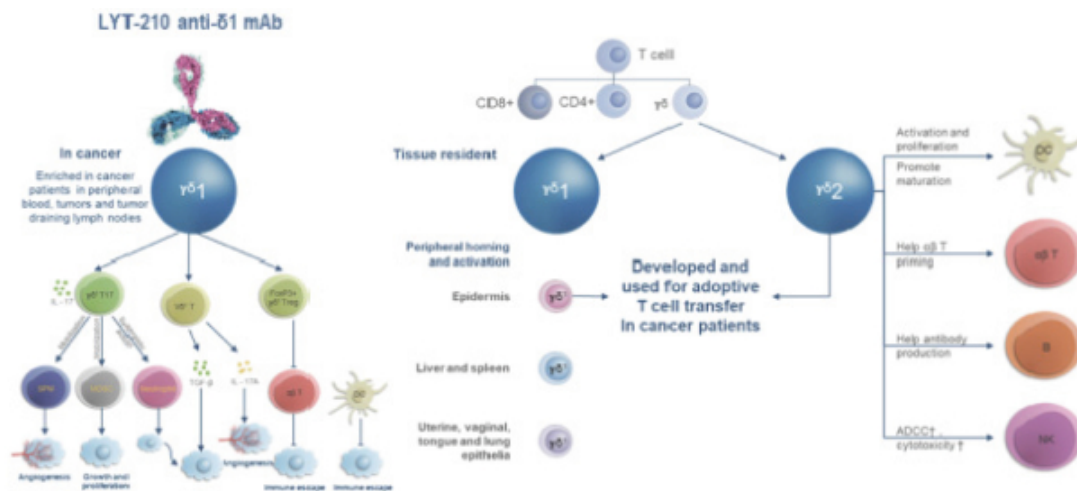
Different T cell subtypes with the focus on gdT cells

Under normal physiological conditions, most T cells express the gd TCR, whereas gd T cells express the gd TCR. gd T cells are further classified based on d chain class, either gd1, gd2 or gd3 T cells. In healthy individuals, the

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most abundant gd T cells are gd2, which are typically found in the blood and are cytotoxic by function. gd1 T cells can also be found in the blood but in much smaller numbers in healthy people. gd1 T cells are also present in mucosal membranes and skin in healthy people. In cancer patients, immunosuppressive gd1 T cells become more abundant in tumors and blood than gd2 T cells and create an immunosuppressive tumor microenvironment, as illustrated on the left side of the figure below. gd2 T cell cytotoxic functions are being evaluated by others as adoptive T cell therapeutics in early stage trials which is different from our approach of targeting immunosuppressive gd1 T cells.

We are targeting depletion of immunosuppressive, tumorigenic gd1 T cells rather than administration of cytotoxic gd2 T cells as a cell therapy. gd1 T cells execute potent immunosuppressive function via multiple mechanisms, as illustrated on the left side of the figure below, which facilitates cancer progression. We are designing LYT-210 to eliminate gd1 T cells, and thereby potentially relieve immunosuppression, which we believe could enable immune mediated cancer attack.



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Elevated numbers of gd1 T cells have been observed in many cancer types, including but not limited to primary and metastatic breast, ovarian, colon and pancreatic cancers. This T cell population promotes tumor growth through active suppression of anti-tumor immune responses. gd1 T cells isolated from human tumors have been shown to suppress naive and memory T cell effector functions, quell cancer cell cytotoxic activity of gd2 T cells, recruit tumor infiltration of immune-suppressive macrophages, or tumor associated macrophages, or TAMs, and MDSCs, as well as inhibit antigen presentation activity of dendritic cells, or DCs. The figure below illustrates the impact of pro-tumorigenic gd1 T cells on tumor progression.

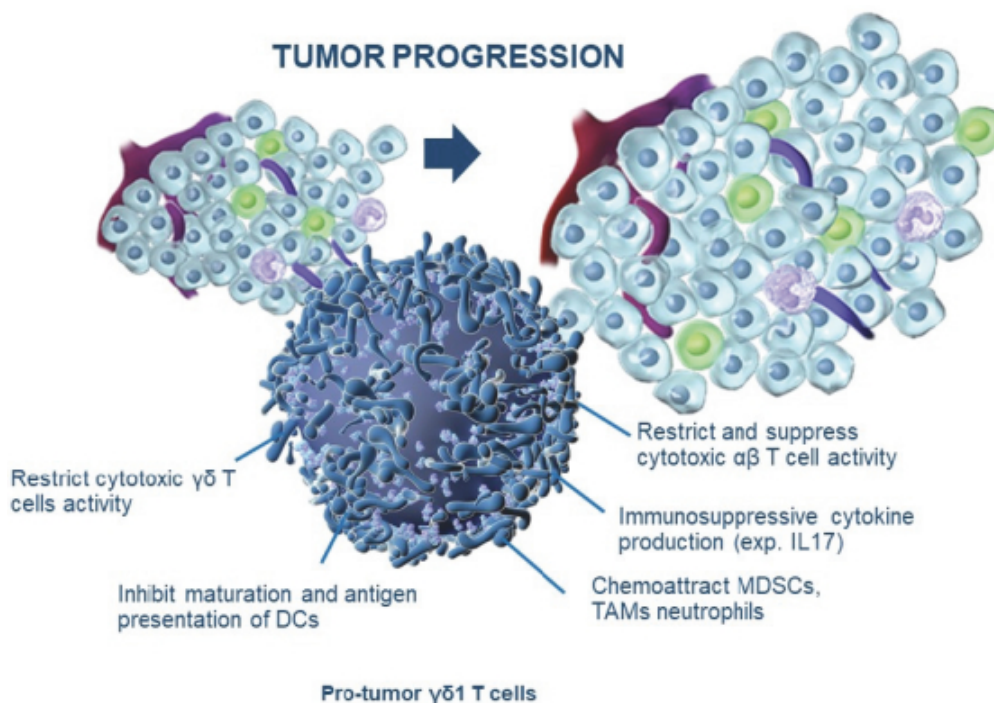
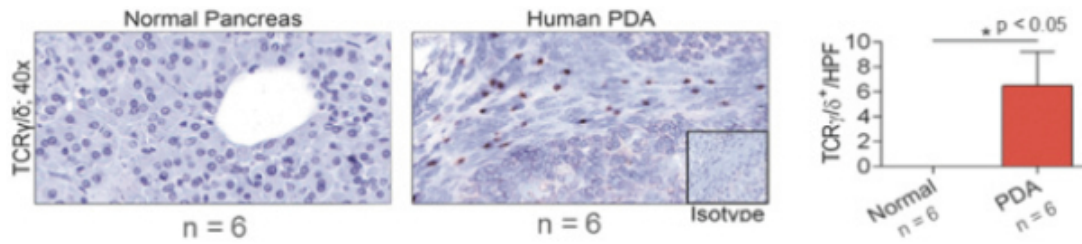


Image adapted from CellPress: REVIEW: gd T Cells: Unexpected Regulators of Cancer Development and Progression. DC = dendritic cell; TAM = tumor associated macrophage; MDSC = myeloid derived suppressor cell; IL17 = interleukin 17

The figure below demonstrates the presence of immunosuppressive gd1 T cells in patients with pancreatic adenocarcinoma. These cells are enriched in peripheral blood and expression of immunosuppression-related molecules on the gd1 T cell surface is significantly increased, while the expression of killing function-related molecules and the activation of killing function-related signaling pathway in the gd2 T cells are significantly decreased. In human cancers, gd1 T cells infiltrate the tumor microenvironment and can be detected using IHC or flow cytometry as shown in the figure below. Frozen sections of human PDA and normal pancreas were stained using a mAb specific for TCR gd or isotype control. Representative images and quantitative data are shown. The figure demonstrates that pancreatic cancers are enriched intratumorally for gd1 T cells compared to normal pancreatic tissue.

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gd1 T Cell Infiltration of Tumor Microenvironment

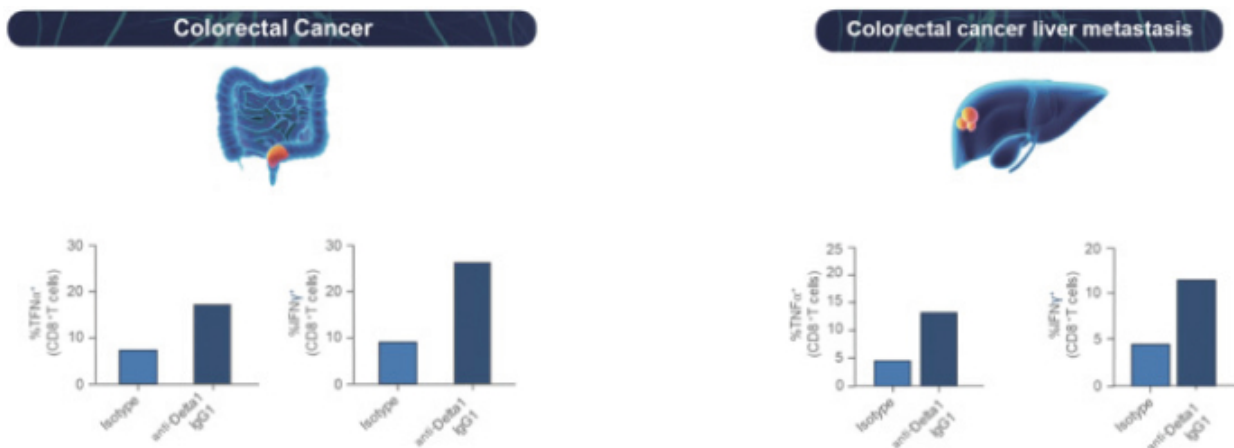


Preclinical Results for Immuno-Oncology Indications

Similar to LYT-200, to better assess the potential activity of anti-d1 antibodies, we employed PDOTs from primary and metastatic tumors spanning various checkpoint inhibitor insensitive solid tumor types such as pancreatic, colorectal, cholangiocarcinoma, hepatocellular cancer and neuroendocrine tumors of the GI tract in order to assess the prevalence of tumor-infiltrating gd1 T cells and the capacity of the antibodies to restore tumor-infiltrating immune cell effector activity. Positive response in the organoid model is measured by an increase of more than 20 percent in at least two out of three T cell activation markers. We observed positive response in approximately 63 percent of the PDOTs we analyzed, representing 30 patients, which we believe shows the potential of the approach to reactivate immunosuppressed T cells in the tumor microenvironment.

The figure below is illustrative of data collected from 30 human tumor organoid samples from CRC and pancreatic cancer patients.

Examples of *in vitro* T Cell Activation with Antibodies Against gd1 T Cells

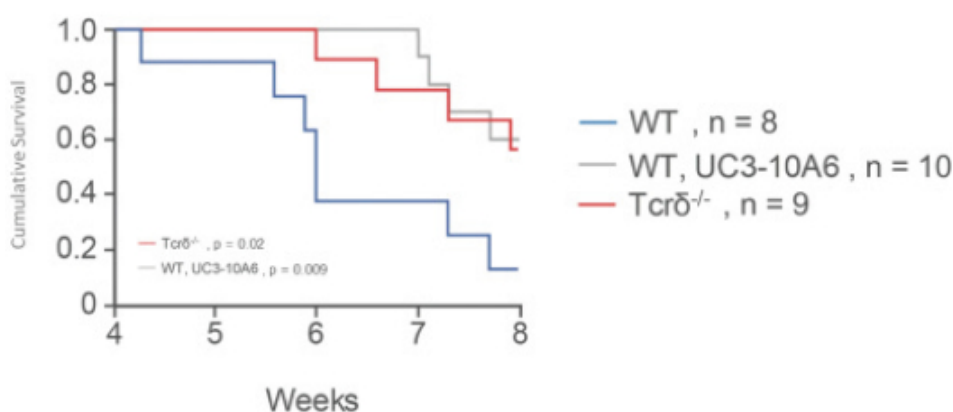


In order to assess the relevance of gd T cells in the development and progression of pancreatic cancer, we assessed the survival of immunocompetent mice which have gd T cells (wild type) or mice which are knock outs for gd T cells in a KPC mouse pancreatic model. In addition, there was an additional group of wild type mice treated with an antibody, UC3-10A6, which functionally blocks immunosuppressive mouse gd T cells.

As shown in the figure below, when pancreatic cancers grow in the absence of gd T cells, represented by the red curve, or when mice with pancreatic cancer were treated with an antibody against immunosuppressive gd T cells, represented by the grey curve, survival was greatly increased.

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Pancreatic Cancer Mouse Survival with gd T Cell Depletion and Blockage



In order to validate and expand these findings, we compared the growth of syngeneic subcutaneous melanoma, or B16F10, and lung cancers in mouse strains with gd T cells (wild type) or without gd T cells (gd null) and evaluated the activity of anti-PD-1 and anti-CTLA4 mAbs within these groups. The results of these experiments showed increased anti-tumor activity of checkpoint blockade therapy in the absence of gd T cells.

We plan to advance additional preclinical and biomarker studies for LYT-210 in 2021.

LYT-210 for Autoimmune Disease: Mucosa-infiltrating Pathogenic gd1 T cells

Intraepithelial lymphocytes expressing gd1 TCRs are tissue-resident T cells that play a key role in homeostasis of the intestinal epithelium. It has been recently observed that chronic inflammation can permanently reconfigure the tissue-resident T cell compartment resulting in the repopulation of the GI mucosa with pathogenic and cytotoxic gd1 T cells. Establishment of pathogenic gd1 T cells along the GI tract tilts the gut environment towards a chronic inflammatory state, contributing to the pathophysiology of GI tract and inflammatory diseases, such as refractory celiac disease. We plan to conduct preclinical studies in animal models of inflammatory diseases.

The FDA and corresponding regulatory authorities will ultimately review our clinical results and determine whether our Wholly Owned product candidates are safe and effective. No regulatory agency has made any such determination that LYT-210 is safe or effective for use by the general public for any indication.

LYT-300: Oral Allopregnanolone in Development to Treat a Range of Neurological and Neuropsychological Conditions

The CNS comprises an extensive and immensely complex framework made up of a multitude of cells that support its essential function of signaling and transmitting information—predominantly carried out by neurons. With billions of neurons within the CNS, this communication across the complex network is achieved by means of neurotransmitters that enable signals to be transferred at junctions between neurons, or synapses. These signals transmitted between neurons might be inhibitory, excitatory or modulatory as it relates to the desired function to be achieved. Neurotransmitters communicate information between neurons via receptors that are exquisitely designed for transmission of information.

The major inhibitory neurotransmitter in the brain is gamma aminobutyric acid, or GABA, which decreases activity in the nervous system and essential for maintaining normal physiological function. One of its modes of action is via the GABA_A receptor that is found on the membrane of neurons. These receptors have also been

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found on the membranes of immune cells suggesting a role for this biology across the Brain-Immune interface. GABA_A receptors play a critical role in biology and their modulation has been the subject of several therapeutic efforts with the goal of having an impact across a range of neurological disorders. However, concerns around safety, challenging dosing regimens, and PK limitations have hampered the development of meaningful drug candidates. Neurosteroids are a class of endogenous natural small molecules that play a crucial role in modulating neurotransmission. Importantly, as it relates to GABA_A receptors, the neurosteroid allopregnanolone—a positive allosteric modulator, through its action via the synaptic and extra-synaptic receptors—is capable of having a profound impact on GABA_A signaling. These compounds display significantly improved selectivity and capacity for modulation at these crucial sites, which might enable overcoming the challenges faced by approaches that have been developed to date.

Allopregnanolone, and neurosteroids in general as a class of potent endogenous natural small molecules, have been recognized over the past three decades for their therapeutic potential to treat a range of neurological and neuropsychological conditions such as epileptic disorders, fragile X syndrome, fragile X tremor-associated syndrome, anxiety, depression, essential tremor, and sleep disorders, among others. The major hurdles associated with the translation of these compounds have been:

- The inability to create an oral formulation due to first pass metabolism by the liver
- The inability to administer them chronically to patients – essential for treating CNS disorders

The recent approval of Zulresso, a 60 hour IV infusion to treat post-partum depression, speaks to the challenges that limit the scope of translation of this class of compounds to treat neurological and neuropsychological disorders. An oral form of allopregnanolone and other neurosteroids would enable the development of these natural molecules for treating a range of neurological and neuropsychological conditions.

Inspired by the natural trafficking of fats via the lymphatics at the gut-immune interface, we have developed an oral lipid-prodrug version of allopregnanolone. By trafficking via the lymphatics, we are able to overcome the first pass metabolism by the liver and achieve significant oral bioavailability of endogenous allopregnanolone in preclinical models. By utilizing our versatile small molecule lymphatic trafficking chemistry platform, we designed a multitude of lipid-prodrug molecules to control lymphatic trafficking, systemic release, and hence oral bioavailability of the active endogenous compound. Importantly, by harnessing this approach we have developed a version of allopregnanolone that can be administered chronically to patients to treat a range of neurological and neuropsychological conditions and built a robust intellectual property portfolio that enables protection of our proprietary composition of matter.

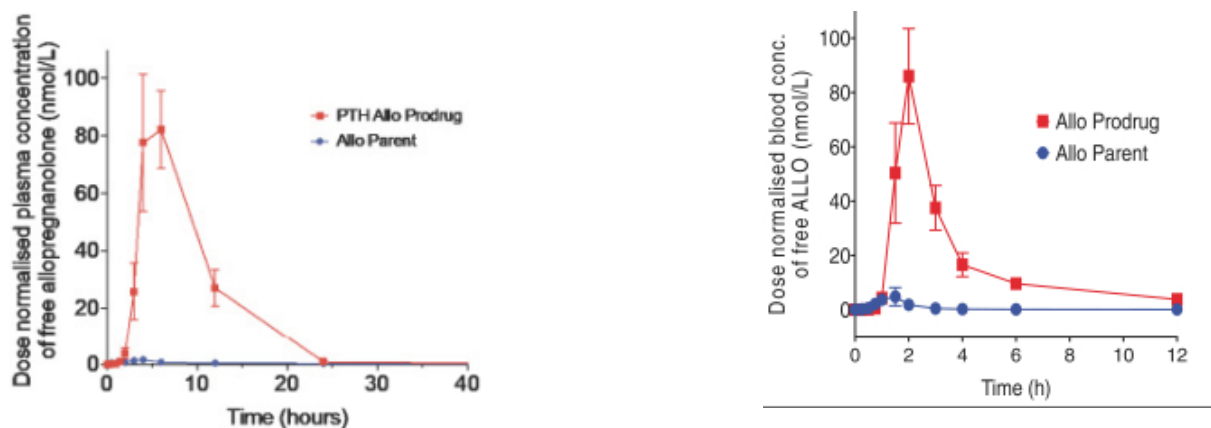
Preclinical Results

We created a library of lipid prodrugs of allopregnanolone and showed that orally dosing these prodrugs achieved therapeutically relevant plasma levels in small and large animal models. These studies, coupled with our other preclinical studies, support the possible utility of this approach for converting natural allopregnanolone into an orally-dosed drug as well as for numerous other potential therapeutics with intrinsic hepatic metabolism liabilities and oral absorption limitations.

We measured plasma levels of allopregnanolone after oral administration of lymphatic targeting prodrug of allopregnanolone or unmodified allopregnanolone in preclinical models of dogs and non-human primates. Male cynomolgus monkeys (figure below on the left) or dogs (figure on the right) were fed a standardized diet prior to drug administration. The figure below shows dose-normalized blood concentration of free allopregnanolone over time in monkeys (n = 6) and dogs (n = 4) after oral administration of lipid prodrug compound in comparison with orally-administered allopregnanolone (error bars represent standard error of measurement). Apparent bioavailability of free allopregnanolone versus intravenous, or IV, was calculated to be over 30 percent in both species.

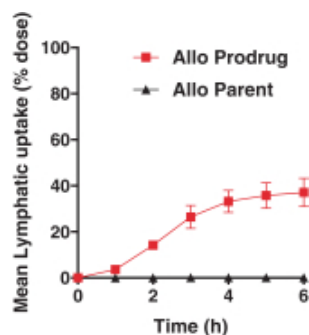
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Allopregnanolone Oral Exposure



This plasma exposure increase was confirmed to be due to lymphatic uptake. In the figure below, total allopregnanolone concentration (including free and prodrug-associated) was measured in the mesenteric lymph duct of anaesthetized rodents following intraduodenal infusion of prodrug (n = 3) or parent allopregnanolone (n = 2).

Allopregnanolone Lymphatic Uptake



No drug-related adverse effects have been noted in preclinical studies to date. Formal safety studies are being pursued as a part of the first-in-human-enabling package of studies. To support these studies, dose escalation studies have been performed on rat and dog and dose proportionality has been observed in both species.

Our Planned Clinical Development

The initial objective of the LYT-300 clinical program is to characterize the safety, tolerability, and PK behavior of orally administered LYT-300 in a Phase 1 clinical trial in healthy volunteers. We expect to initiate a first-in-human clinical study by the end of 2021. These studies may include exploratory endpoints such as beta wave power electroencephalography, or β -EEG, a marker of GABA_A target engagement. Data from these initial studies will be used to define a range of future studies and planned indications, which could include those discussed in the above section on unmet needs.

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Discovery Platforms: Our Platforms Leveraging the Absorption of Dietary Lipids to Traffic Therapeutics Via the Lymphatic System

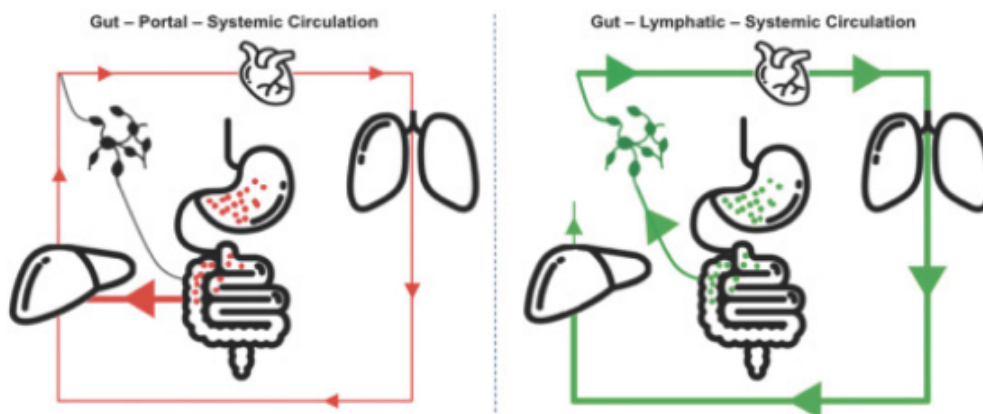
In addition to our internal product candidates described above, we have two platforms designed to harness the lymphatic system functions for immunology, oncology and CNS indications in discovery as discussed below.

Given our interest in the lymphatic system, we sought out different approaches that could be taken to selectively traffic therapeutic molecules through the lymphatic system to target immune cells in the lymph nodes.

Glyph™: Lymphatic Targeting Chemistry Platform

We are developing a synthetic lymphatic-targeting chemistry platform called Glyph, which employs the body's natural lipid absorption and transport process to orally administer drugs via the lymphatic system. Consumed nutrients and orally-administered pharmaceuticals are initially absorbed by the small intestine mucosa, distributed to the liver by the portal vein before entering systemic circulation. Importantly, many consumed dietary lipids, particularly triglycerides, enter systemic circulation by an alternate route. Triglycerides, which are composed of three fatty acid chains tethered to a 3-carbon glycerol molecule, are absorbed by small intestine mucosal enterocytes where they are incorporated into large lipid-protein complexes, or chylomicrons, and released into the submucosa. Chylomicrons are too large to enter blood vessels and are instead taken up by submucosal lymphatic vessels. Once in the lymphatic vessels, they are transported to mesenteric lymph nodes associated with the GI tract where they pass into larger lymphatic sinuses connected to the thoracic duct, then transition to systemic circulation as illustrated in the figure below. This is in contrast to conventional systemic circulation via the gut and liver as shown in the figure below on the left.

Conventional Drug Circulation versus Lymphatic Systemic Circulation



We believe this platform provides the following capabilities:

- *Targeting the mesenteric lymph nodes.* This lymphatic targeting technology has important features potentially offering meaningful advantages in the creation of orally-administered medicines, especially those that need to reach immune system drug targets present in the GI tract mucosa and submucosa, such as intestine-associated immune cells, or in the mesenteric lymphatic vasculature, such as circulating immune cells, and mesenteric lymph nodes, such as lymph node stromal cells, antigen-presenting DCs and lymph node-associated immune cells.
- *Enhancing oral bio-availability by bypassing first-pass metabolism.* We believe this technology could provide a broadly applicable modular means to significantly enhance the bioavailability of orally-administered drugs that suffer from substantial first-pass liver metabolism or those drugs, especially

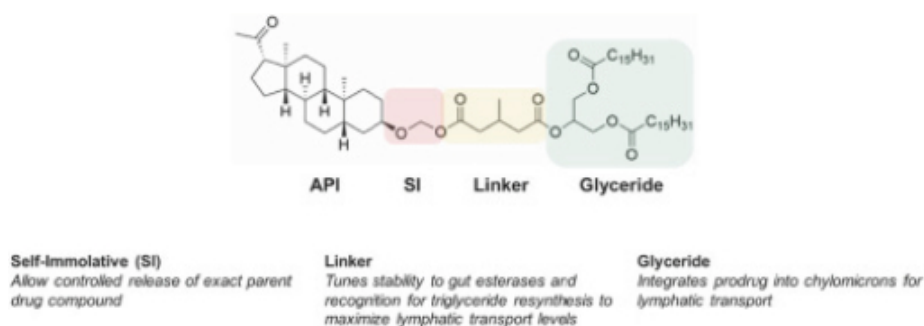
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those utilized in drug combination therapies, that act as modulators (inducers and/or inhibitors) of drug-metabolizing systems in the liver.

We have successfully extended our lymphatic targeting platform to encompass more than 20 molecules as well as a range of novel linker chemistries that have demonstrated promising lymphatic targeting in preclinical studies. We expect to select product candidates from this and ongoing discovery work. In April 2019, we announced an alliance with Boehringer Ingelheim, which is initially focused on evaluating the feasibility of applying our Glyph technology platform to one of its immuno-oncology product candidates. We retain all other applications of this technology.

Our proprietary Glyph technology platform takes advantage of the fact that one of the triglyceride-associated fatty acids remains bound to dietary lipids during intestinal absorption, chylomicron conversion, lymphatic vessel uptake and eventual transport into the circulatory system. Using a modular set of proprietary chemical entities, small molecule pharmaceutical compounds can be docked to triglycerides where, following oral administration, the small molecule is directed into the mesenteric lymphatic system and on to systemic circulation. The point of original small molecule release from the triglyceride is governed by self-cleaving chemical structures, with different release-timing features, that tether the small molecule to the module connected to the triglyceride. The figure below is a representation of the proprietary chemistry for the design of our lymphatic targeting technology. The active pharmaceutical ingredient, or API, is meant to indicate an example of a pharmaceutical small molecule that is attached to the triglyceride, or Glyceride in the figure below, group using proprietary linker chemistry, or Linker in the figure below, to create a prodrug of the API. The prodrug also includes a proprietary self-immolative or cleaving chemistry, or SI in the figure below, that can be tuned to release the API in its intact original form.

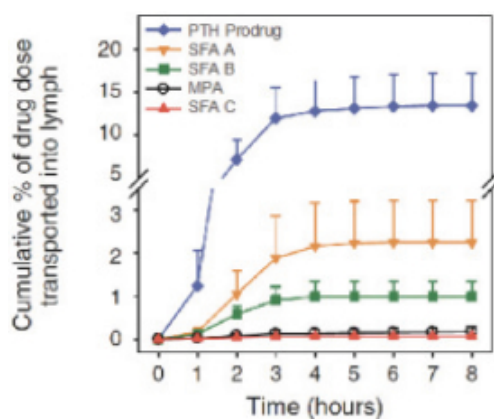
Schematic Representation of Our Lymphatic Targeting Prodrug Technology



Earlier efforts by scientists to create lipid-like prodrugs used strategies that coupled the small molecule drug directly with a single fatty acid, which cannot be packaged by the GI into lymph-bound chylomicrons and therefore does not facilitate transport to the mesenteric lymph nodes. The figure below demonstrates our lymphatic targeting prodrugs, marked PTH Prodrug in the figure below, demonstrated five-fold improved lymph transport as compared to conventional single fatty acid prodrugs, marked prodrug A through C in the figure below, or unmodified mycophenolic acid, or MPA, an immune-suppressive agent widely used in solid organ transplant rejection therapy and the treatment of lupus autoimmunity.

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Lymphatic Uptake of Our Prodrug



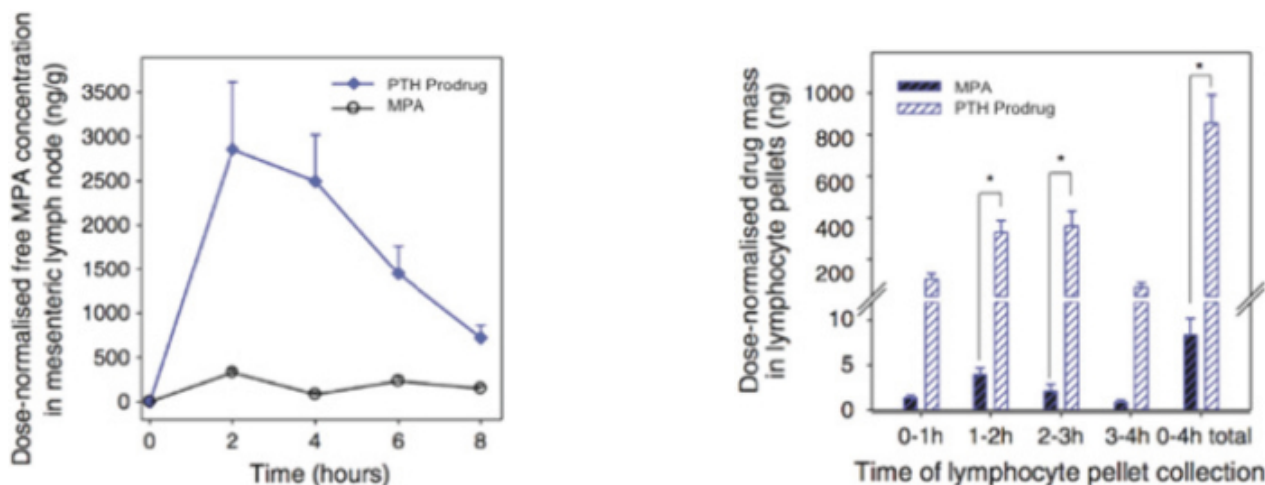
Targeting the Mesenteric Lymph Nodes

To demonstrate the mesenteric lymphatic targeting capability of the platform, prodrugs were created from MPA. Preclinical studies in rodent models conducted by our collaborator and co-inventor, which were independently repeated by us, demonstrated that lipid prodrugs of MPA were capable of achieving MPA concentrations in mesenteric lymph, mesenteric lymph nodes and in mesenteric lymph node immune cells that were ten to 100-fold higher than observed with unmodified MPA. The figures below show the level of released MPA measured in lymph nodes (left) or lymphocytes within mesenteric lymph fluid (right) at the time periods indicated following small intestine administration of MPA or MPA lipid prodrugs.

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In the figure on the left below, dose-normalized MPA concentration in mesenteric lymph nodes following intraduodenal infusion (over two hours) of MPA or MPA prodrug to anaesthetized, mesenteric lymph-duct intact rats (n = 3 for each time point, each drug). Our modified prodrug had a ten-fold higher exposure as calculated by area under the curve, or AUC, over eight hours. The panel on the right depicts dose-normalized mass of MPA and MPA derivatives in lymphocyte pellets separated from hourly collected mesenteric lymph samples following intraduodenal infusion of formulations containing MPA or MPA prodrugs (PTH Prodrug). The measured prodrug was over 100-fold higher than free drug over the four-hour experiment.

Drug Concentration With and Without Our Prodrug Measured in Lymph Nodes and in Lymph Fluids



Enhancing Oral Bio-Availability

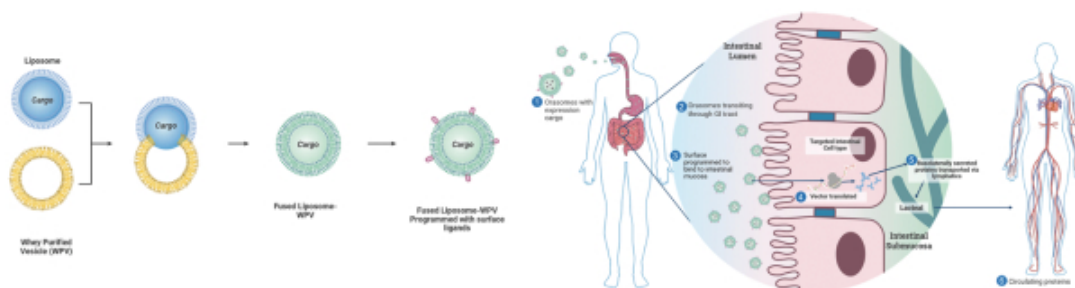
As noted above, we believe this platform provides a broadly-applicable modular approach to enhance the bioavailability of orally-administered drugs that suffer from substantial first-pass liver metabolism. To demonstrate the utility of our lipid prodrug platform in such cases, we chose allopregnanolone as the subject of our inquiry, which has resulted in the LYT-300 program. However, this benefit can potentially be widely applied to nearly any therapeutic compatible with the synthetic approach which suffers from hepatic first-pass metabolism as has been shown by us and our collaborators with compounds such as testosterone, buprenorphine, and multiple cannabinoids.

Orasome™ Technology Platform: Designing a Programmable and Scalable Approach for Oral Administration of Nucleic Acids and Other Biologics

We are developing a versatile and programmable oral biotherapeutics platform, Orasome™, to enable administration of macromolecule therapeutic payloads, including antisense oligonucleotides, short interfering RNA, mRNA, modular expression vector systems, peptides and nanoparticles that are otherwise administered exclusively by injection.

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The figure below depicts the administration of oral biotherapeutics:



Our Orasome technology platform was inspired by the *in vivo* trafficking of ubiquitous, naturally occurring vesicles, which are often referred to as exosomes, and we have engineered them for transport through the gastro-intestinal tract. Exosomes are a type of extracellular vesicle approximately ranging from 50nm to 150nm in diameter that are produced in the endosomal compartment and secreted from most types of eukaryotic cells. We believe human cell-derived exosomes have attractive promise as vehicles for systemic drug delivery due to their likely observed tolerability over synthetic polymer-based delivery technologies. However, the fragile nature of exosomes derived from human cells limits their usage for oral administration and the type of post-isolation manipulations that can be applied in order to optimize such vesicles for exogenous drug cargo loading and storage.

Our Orasome technology platform utilizes multiple vesicle components, including those isolated from milk. We have engineered these vesicles, building on the naturally evolved architecture in mammals, to remain stable following oral consumption and transit through the upper GI tract. Orasome vesicles are readily amenable to manufacturing at scale and relatively low cost based on the easily accessible and engineerable components.

Our proprietary Orasome technology platform has the potential to transform the treatment paradigm for diseases, such as rheumatoid arthritis, other autoimmune diseases, diabetes and cancer for which the standard of care often requires intravenous infusion or subcutaneous injection of monoclonal antibodies (e.g., anti-programmed death-1, anti-tumor necrosis factor) or therapeutic proteins/peptides (e.g., glucagon-like peptide-1, insulin, granulocyte colony-stimulating factor G-CSF, Factor VIII and IX, cytokines and erythropoietin, among others).

Our Orasome vesicles are currently constructed to transport macromolecular medicines to selected mucosal cell types of the intestinal tract where the therapeutics act either directly in the GI tract, transit through the mucosa to the underlying lymphatic vascular network or, in the case of cargos that yield mRNAs, enable the body to produce its own therapeutic proteins and peptides, such as antibodies within mucosal cells that are secreted into the mucosal lymphatic vascular network for subsequent systemic distribution. Using our Orasome technology platform, we believe it may be possible for a patient to take an oral drug product that will permit their own GI tract cells to make virtually any type of therapeutic protein. We believe this approach also has the potential to provide a more convenient and significantly less expensive means to deliver biological medicines.

Within the context of the current COVID-19 pandemic, we believe our Orasome technology platform has the potential to support oral administration of anti-SARS-CoV-2 monoclonal antibodies or antibody combinations and vaccines to supply passive immune therapies for infected individuals and passive immune protection for health care and first responder professionals. Thus, whether combating emerging epidemic/pandemic pathogens or other diseases where monoclonal antibody therapeutics or vaccines offer significant clinical benefit, we believe our Orasome technology platform has the potential to transform the treatment of a range of clinical indications, while also lowering costs and simplifying administration of such biotherapeutics.

We expect preclinical proof-of-concept data in the second half of 2020 and anticipates results from a non-human primate proof-of-concept study in 2021. The proof-of-concept studies are designed to document the presence of

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therapeutic serum levels of biotherapeutics (peptides and proteins, such as antibodies) produced by the body following the oral administration designer payloads.










This work could lay the foundation for IND-enabling clinical studies for one or more additional product candidates to be included in our Wholly Owned Pipeline. We intend to leverage our proprietary technology platforms, as well as our extensive network with major pharmaceutical companies and world-leading scientists in immunology and lymphatics, to generate additional novel product candidates.

Our Founded Entities' Product Candidates

The table below summarizes the programs of our Founded Entities. We established the underlying programs and platforms that have resulted in the product candidates being developed by our Founded Entities and advanced them through key validation points. Each of their product candidates targets indications related to one or more of the BIG systems, and any value we realize from these product candidates will be through the potential growth and realization of equity and royalty stakes highlighted in the table below.

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We hold majority voting control of our Controlled Founded Entities and continue to play a role in the development of their product candidates, through representation on their board of directors, with respect to Follica, Vedanta, Alivio and Sonde. Our board designees represent a majority of the members of the board of directors of Follica, Vedanta and Alivio and a minority of the members of the board of directors of Sonde. With respect to our Non-Controlled Founded Entities, we do not hold majority equity ownership and are not responsible for development or commercialization of their product candidates and FDA-cleared products. Our Non-Controlled Founded Entities have independent management teams, and we do not control the day-to-day development of their respective product candidates.

Founded Entities		
Founded Entity	Pure Tech Ownership ^R	Description
Non-Controlled Founded Entities with Royalty Interests		
	21.0% ^R	Gelesis is developing a novel hydrogel platform technology designed to treat obesity and other chronic diseases related to the GI pathway. Gelesis' proprietary approach is designed to act mechanically in the GI pathway to potentially alter the course of chronic diseases. Gelesis received clearance from the FDA and a European CE Mark for its first product, Plenity, and has additional programs in development for indications including NASH/NAFLD and functional constipation.
	12.8% ^R	Karuna is developing novel therapies with the potential to transform the lives of people with disabling and potentially fatal neuropsychiatric disorders, including schizophrenia and dementia-related psychosis. Following the completion of a successful End-of-Phase 2 meeting with the FDA, Karuna expects to initiate Phase 3 trials for its lead program.
Controlled Founded Entities		
	78.3% ^R	Follica is developing a regenerative biology platform designed to treat androgenetic alopecia, epithelial aging and other medical indications. Follica's approach is based on generating an "embryonic window" in adults via a targeted, proprietary method of scalp disruption, stimulating stem cells causing new hair follicles to grow. It has two clinical-stage programs focused on androgenetic alopecia and skin rejuvenation.
	50.4%	Vedanta is developing a new category of therapies for immune-mediated diseases based on a rationally-defined consortia of human microbiome-derived bacteria. It has four clinical-stage programs in development for high-risk CDI, food allergy, IBD and solid tumors.
	45.8%	Sonde is developing a voice-based technology platform designed to detect health conditions and symptoms from changes in voice. Using machine learning, Sonde's proprietary technology senses and analyzes subtle vocal changes due to changes in a person's physiology to provide early health detection and monitoring.
	78.6%	Alivio is advancing its targeted disease immunomodulation platform for the potential treatment of chronic and acute inflammatory disorders. Its three preclinical-stage programs are in development for pouchitis, IBD and IC/BPS.
	72.9%	Entrega is advancing its technology platform for the oral delivery of biologics, vaccines and other drugs that are otherwise not efficiently absorbed when taken orally. Entrega's approach uses a proprietary, customizable hydrogel dosage form to control local fluid microenvironments in the GI tract to both enhance absorption and reduce the variability of drug exposure.
Founded Entities Limited to Equity Interest		
	34.0%	Akili is a leading digital therapeutics company, combining scientific and clinical rigor with the ingenuity of the tech industry with a goal of changing how medicine is developed, delivered and experienced. Akili is pioneering the development of treatments designed to have direct therapeutic activity, delivered not through a traditional pill but via a high-quality video game experience. Akili is evaluating a number of technologies and potential new digital medicines designed to target neural systems to improve associated cognitive functions. Akili received clearance from the FDA for EndeavorRx™ (AKL-T01) as a prescription treatment to improve ADHD and a European CE Mark as a prescription-only digital therapeutic intended for the treatment of attention and inhibitory control deficits in pediatric patients with ADHD.
	11.8%	Vor is pioneering engineered hematopoietic stem cell (eHSC) therapies for the treatment of cancer. Vor's platform could be used to potentially change the treatment paradigm of both hematopoietic stem cell transplants and targeted therapies, such as antibody drug conjugates, bispecific antibodies and CAR-T cell treatments. Its lead product candidate, VOR33, is in development for acute myeloid leukemia.

* Relevant ownership interests for Founded Entities were calculated on a diluted basis (as opposed to a voting basis) as of June 30, 2020, including outstanding shares, options and warrants, but excluding unallocated shares authorized to be issued pursuant to equity incentive plans. Ownership of Vor is based on the assumption that all future tranches of the most recent financing round are funded. Karuna ownership is calculated on an outstanding voting share basis as of August 26, 2020.

R PureTech Health has a right to royalty payments as a percentage of net sales. For a description of these agreements, see "Business Overview."

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All of these underlying programs and platforms across our Founded Entities were initially identified or discovered and then advanced by our team through key validation points before being further developed by each respective Founded Entity.

Our Founded Entities are described below.

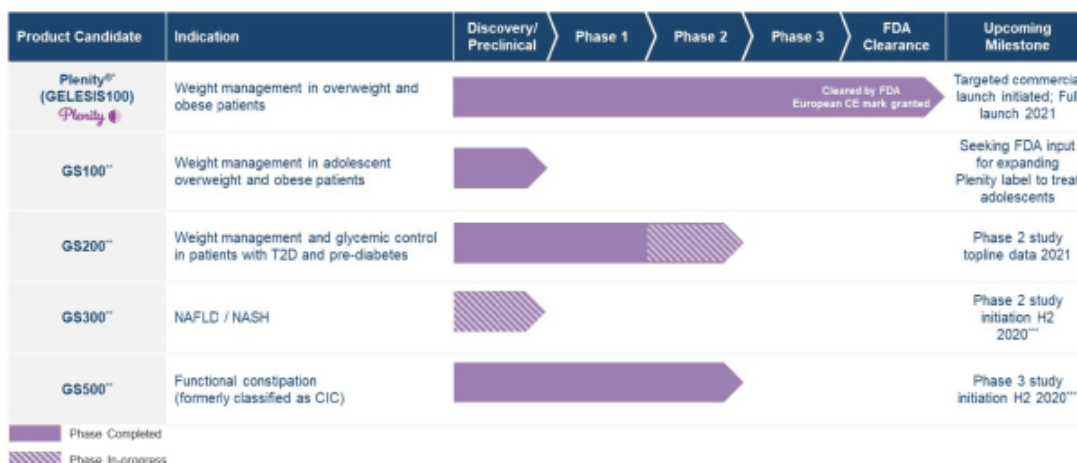
Founded Entities in which PureTech has a Controlling Interest or the Right to Receive Royalties, in Order of Development Stage

Gelesis

Gelesis is developing oral therapeutics based on a novel, superabsorbent hydrogel technology platform to treat obesity and other chronic diseases related to the GI pathway. Gelesis’ proprietary approach is designed to act mechanically in the GI pathway to potentially alter the course of chronic diseases. In April 2019, Gelesis received clearance from the FDA for its first product, Plenity® (Gelesis100), an aid for weight management in adults with a body mass index, or BMI, of 25-40 kg/m², when used in conjunction with diet and exercise. In June 2020, Gelesis received a CE Mark for Plenity as a class III medical device indicated for weight loss in overweight and obese adults with a Body Mass Index, or BMI, of 25-40 kg/m², when used in conjunction with diet and exercise, which allows Gelesis to market Plenity throughout the European Economic Area and in other countries that recognize the CE Mark.

Given challenges associated with pharmacological and invasive surgical treatments for obesity, Gelesis designed an approach with an oral, non-invasive, non-systemic mechanism of action and a highly favorable safety and efficacy profile. Gelesis’ product candidates work in the GI tract and pass through the body without being absorbed. They are synthesized from two naturally derived building blocks (citric acid and cellulose) that form a novel, patent-protected three-dimensional structural composition and occupies volume in the stomach and small intestine to promote satiety and fullness. Because Gelesis’ technology acts mechanically and is not systemically absorbed, the product candidates are treated as devices for regulatory approval purposes.

Gelesis was incorporated in February 2006. The following chart summarizes Gelesis’ product and product candidates:



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- * Important Safety Information: Plenity is contraindicated in patients who are pregnant or are allergic to cellulose, citric acid, sodium stearyl fumarate, gelatin, or titanium dioxide. Plenity may alter the absorption of medications. Read Sections 6 and 8.3 of the Instructions for Use carefully. Avoid use in patients with the following conditions: esophageal anatomic anomalies, including webs, diverticuli, and rings; suspected strictures (such as patients with Crohn's disease); or complications from prior GI surgery that could affect GI transit and motility. Use with caution in patients with active GI conditions such as GERD, ulcers or heartburn. The overall incidence of AEs in the Plenity group was no different than the placebo group. The most common side effects were diarrhea, distended abdomen, infrequent bowel movements, and flatulence. For the safe and proper use of Plenity, refer to U.S. Instructions for Use or the EU Instructions for Use.
- ** Products are investigational and have not been cleared by the FDA for use in the United States.
- *** Contingent of FDA review of the research plan.

Program Discovery Process by the PureTech Team

We were interested in creating an effective and safe therapy for obesity given the tremendous need, significant health implications and failure of prior approaches to effectively engage and serve the breadth of the population affected. We consulted with leading obesity experts to brainstorm on the characteristics of an ideal approach, which we decided was an orally-administered mechanically acting device, and we then conducted a worldwide search for compelling technologies meeting these criteria. We identified and in-licensed the core intellectual property from one of our academic collaborators in October 2008, and we subsequently co-invented additional intellectual property around a novel class of biocompatible, superabsorbent hydrogels. One of the core PureTech team members involved in the initial identification and development process subsequently assumed the role of chief executive officer of Gelesis, and successfully attracted financing and built a strong development and commercial leadership team.

The Gelesis advisory team is comprised of leading experts in obesity and its related comorbidities, clinical research and development and advanced biomaterials, including Caroline Apovian, M.D., professor of Medicine and Pediatrics at Boston University School of Medicine; Louis J. Aronne, M.D., FACP, director of the Comprehensive Weight Control Program at Weill Cornell Medicine; Arne Astrup, M.D., head of department of Nutrition, Exercise and Sports at University of Copenhagen; Ken Fujioka, M.D., director of the Nutrition and Metabolic Research Center and the Center for Weight Management at the Scripps Clinic; James Hill, Ph.D., chairman, Department of Nutrition Sciences, director, Nutrition Obesity Research Center, University of Alabama; professor of Medicine and Pediatrics, University of Colorado; Lee M. Kaplan, M.D., Ph.D., Director of the Obesity, Metabolism and Nutrition Institute at Massachusetts General Hospital; Bennett Shapiro, M.D., co-founder and non-executive director at PureTech and former Executive Vice President of Research for Merck; and Angelo Tremblay, Ph.D., professor at Laval University.

Patient Need and Market Potential

Excess weight is growing rapidly in prevalence worldwide, with approximately 70 percent of American adults struggling with overweight and obesity. Globally there are more than 1.9 billion adults 18 years of age or older who are overweight and 600 million who have obesity. Obesity-related conditions, such as heart disease, stroke, type 2 diabetes, NASH/NAFLD and certain types of cancer, are some of the leading causes of preventable death. Functional constipation and NASH/NAFLD affect approximately 35 million and 80 to 100 million individuals, respectively, in the United States. Type 2 diabetes and prediabetes affect approximately 30 million and 84 million individuals, respectively, in the United States.

Current treatments for overweight and obese patients begin with lifestyle modification, such as diet and exercise. When healthy eating and physical activity fail to produce the desired results, physicians may consider pharmaceutical therapies, device implantation or surgical treatments, such as gastric bypass and gastric banding (for patients with more severe obesity). These approaches are associated with safety concerns, lifestyle impact, complexity of use, high cost and compliance issues that have limited their adoption.

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Development Status

Gelesis received clearance from the FDA to market and sell its lead product Plenity as an aid for weight management in adults with a BMI of 25-40 kg/m², when used in conjunction with diet and exercise. Plenity is FDA-cleared for the largest number of adults struggling with overweight and obesity of any prescription weight-management aid and the only prescription weight management product to be cleared for use by overweight adults with a BMI as low as 25 kg/m², with or without comorbidities. Nearly 150 million adults with excess weight in the United States fall within the BMI range included in the Plenity label.

Gelesis also received a CE Mark for Plenity as a class III medical device indicated for weight loss in overweight and obese adults with a Body Mass Index (BMI) of 25-40 kg/m², when used in conjunction with diet and exercise. Gelesis will now be able to market Plenity throughout the European Economic Area and in other countries that recognize the CE Mark. Gelesis plans to bring Plenity to the U.S. first, where it is now available to a limited extent while the company ramps up its commercial operations and inventory for a full launch in 2021. Gelesis also plans to seek FDA input on the requirements for expanding the Plenity label for treating adolescents.

Gelesis has a partnership with Ro, a leading U.S. telehealth provider, to support the U.S. commercialization of Plenity. Gelesis also has a partnership with China Medical Systems Holdings Ltd., or CMS, for the commercialization of Plenity in China. Through the terms of the deal, CMS will provide \$35 million upfront in a combination of licensing fees and equity investment, with the potential for an additional \$388 million in future milestone payments as well as royalties.

Plenity was evaluated in a multicenter, double-blind, placebo-controlled pivotal study designed to assess change in body weight in 436 adults with overweight or obesity (BMI ³ 27 and ³ 40 kg/m²) after six months of treatment. The study had two predefined co-primary endpoints: at least 35 percent of patients taking Plenity achieving more than five percent weight loss (categorical endpoint) and placebo-adjusted weight loss with a super-superiority margin of three percent. In addition, a prespecified analysis of simple superiority was also performed. The study met and exceeded the predefined categorical endpoint, with 59 percent of adults in the treatment group achieving weight loss of five percent or greater and losing on average 10 percent of their weight (22 pounds) and 3.5 inches from their waists within six months. The study did not meet the three percent super-superiority endpoint but demonstrated superiority of the Plenity treatment over the placebo group (-6.4 percent vs. -4.4 percent, P=0.0007). Plenity-treated individuals had twice the odds of achieving at least five percent weight loss as compared to placebo (adjusted odds ratio: 2.0, P=0.0008).

In addition, 26 percent of the adults who completed the treatment with Plenity were “super-responders,” defined as achieving at least ten percent weight loss. These super-responders achieved an average of about 14 percent weight loss or approximately 30 pounds.

The overall incidence of AEs in the Plenity treatment group was no different than placebo. The most common treatment related adverse events, or TRAEs, were GI disorders (158 TRAEs in 84 (38 percent) subjects in the Plenity arm, compared to 105 events in 58 (28 percent) subjects receiving placebo), infections and infestations (two events in two (one percent) subjects with Plenity and one events in one (one percent) subjects with placebo), and musculoskeletal and connective tissue disorders (three events in two (one percent) subjects with Plenity and 0 in 0 (0 percent) subjects with placebo). There were no SAEs in the Plenity treatment group, whereas there was one SAE in the placebo treatment group. For the safe and proper use of Plenity, refer to the Instructions for Use.

In 2020, Gelesis expects to initiate a Phase 2 study of GS300 in NASH/NAFLD and a Phase 3 study of GS500 in functional constipation. A pilot study of 40 individuals showed that a prototype of GS500 demonstrated a significant reduction in colonic transit time, or CTT, in patients with functional constipation by approximately 16 hours (approximately 31 percent) compared to baseline (P=0.02 compared to placebo).

In 2021, Gelesis expects topline results from a Phase 2 study of Gelesis200 in weight management and glycemic control in adults with type 2 diabetes and prediabetes. Data from a pilot study of Gelesis200 demonstrated that administration of Gelesis200 ten minutes prior to a meal increased fullness throughout the entire day (P=0.012).

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Gelesis' completed and ongoing studies have been approved by the applicable reviewing IRBs as nonsignificant risk device studies. Gelesis also has ongoing discovery efforts to expand its pipeline.

Our board designees represent a minority of the members of the board of directors of Gelesis, and we do not control the clinical or regulatory development or commercialization of Gelesis' products and product candidates. We have an interest in Gelesis' product candidates through our equity investment as well as our right to royalty payments as a percentage of net sales pursuant to a license agreement between us and Gelesis.

Karuna

Karuna is developing novel therapies with the potential to transform the lives of people with disabling and potentially fatal neuropsychiatric disorders, including schizophrenia and dementia-related psychosis.

KarXT combines xanomeline, a muscarinic receptor agonist that has demonstrated decreases in multiple psychotic symptoms and improvements in cognitive symptoms in placebo-controlled human trials in schizophrenia and AD, and trospium chloride as further described below, an FDA approved and well-established muscarinic receptor antagonist that has been shown not to measurably cross the blood-brain barrier. KarXT is designed to preferentially stimulate M1/M4 muscarinic receptors in the brain without stimulating muscarinic receptors in peripheral tissues in order to achieve meaningful therapeutic benefit in patients with psychotic and cognitive disorders.

Xanomeline was previously studied by Eli Lilly and Company, or Eli Lilly, in randomized, double-blind, placebo-controlled trials in schizophrenia with acute psychosis and AD, demonstrating dose-dependent decreases in multiple psychotic symptoms and related behaviors, including hallucinations, delusions and agitation, as compared to patients on placebo in the treatment of psychosis and improvements in symptoms as measured by both the Alzheimer's Disease Assessment Scale-Cognitive Subscale and the Clinician Interview-Based Impression of Change plus caregiver interview standards. To our knowledge, xanomeline is the only muscarinic agonist that has demonstrated potential therapeutic benefit in humans in either schizophrenia or AD. Like all muscarinic receptor agonists studied to date, however, xanomeline's tolerability has been limited by side effects arising from muscarinic receptor stimulation in peripheral tissues, leading to nausea, vomiting, diarrhea and increased salivation and sweating, collectively referred to as cholinergic AEs, or ChAEs, which led Eli Lilly to discontinue development of xanomeline. By pairing xanomeline with trospium chloride, Karuna believes KarXT could potentially maintain efficacy of xanomeline while ameliorating its ChAEs. In November 2019, Karuna announced topline results from EMERGENT-1, its Phase 2 clinical trial of KarXT for the treatment of acute psychosis in patients with schizophrenia, in which KarXT met the trial's primary endpoint with a statistically significant ($p < 0.0001$) and clinically meaningful 11.6 point mean reduction in total PANSS scores over placebo at week five (-17.4 KarXT vs. -5.9 placebo), with similar discontinuation rates between KarXT (20 percent) and placebo (21 percent). The study enrolled 182 schizophrenia patients with acute psychosis, 90 of whom received KarXT. The number of discontinuations due to treatment emergent AEs were equal in the KarXT and placebo arms ($n=2$ in each group). One SAE was observed in the KarXT treatment group, in which the patient discontinued treatment and subsequently sought hospital care for worsening psychosis, meeting the regulatory definition of an SAE. In Karuna's Phase 1 tolerability POC study, KarXT was better tolerated than xanomeline plus placebo and no SAEs were reported. In June 2020, Karuna announced next steps in the EMERGENT program, the clinical program evaluating KarXT for the treatment of adults with schizophrenia, following the completion of a successful End-of-Phase 2 meeting with the FDA. The outcome of the meeting supports the progression of KarXT into Phase 3 development.

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Karuna was incorporated in July 2009. The following chart summarizes Karuna’s product candidates:

Product Candidate	Indication	Discovery/ Preclinical	Phase 1	Phase 2	Phase 3	Upcoming Milestone
KarXT	Schizophrenia Psychosis					Phase 3 program initiation by end of 2020
	Schizophrenia Adjunctive treatment for psychosis					Phase 2 initiation following initiation of trials within Phase 3 program
	Schizophrenia Negative and cognitive symptoms					Phase 2 ready
	Dementia-related psychosis					Phase 1b topline data by end of 2020
Other	Undisclosed Muscarinic-targeted drug candidate					IND-enabling studies initiation
	Undisclosed Target-agnostic drug candidate*					Candidate declaration

Program Discovery Process by the PureTech Team

We were interested in developing a new approach to treat schizophrenia that was effective but did not have the debilitating side effects of the current class of antipsychotics, realizing that any potential new approaches could have wider applicability. We engaged with a group of leading schizophrenia experts who were most excited about muscarinic agonists, pointing to the data generated by Eli Lilly with xanomeline, which was not advanced at that time due to tolerability issues. We invented and broadly filed patents to cover the concept of combining a muscarinic receptor agonist with a peripherally acting antagonist, and we in-licensed xanomeline from Eli Lilly in May 2012. The core team member who was running this program at PureTech became Karuna’s chief operating officer and we built a team of leading drug developers and neuroscientists around him, including Steven Paul, M.D., an expert in CNS drug discovery and development. Karuna completed an IPO on the Nasdaq Global Market in July 2019.

Dr. Paul was formerly executive vice president for science and technology and president of the Lilly Research Laboratories at Eli Lilly and was involved in the original xanomeline work at Eli Lilly. Dr. Paul was also a co-founder of Sage Therapeutics and Voyager Therapeutics, where he also served as chief executive officer, and the former scientific director of the National Institute of Mental Health.

Patient Need and Market Potential

Psychosis is a prominent and debilitating symptom that occurs in many neuropsychiatric disorders, including schizophrenia, dementia, bipolar disorder, major depressive disorder and inflammatory neurological diseases, such as multiple sclerosis, but there are no existing medicines that sufficiently and safely treat psychosis and cognition impairments. There are approximately 2.7 million adults living with schizophrenia and about 8.4 million people living with dementia in the United States, of which approximately 40 percent are diagnosed with the disease, with around 1.2 million experiencing symptoms of psychosis. Antipsychotics are the mainstay therapy; however, drugs currently in use all rely on the same fundamental mechanism of action and, despite widespread use, the prognosis for patients remains poor. People with schizophrenia have a ten to fifteen year reduction in life expectancy compared to the general population, struggle to maintain employment or live independently and are often unable to maintain meaningful interpersonal relationships.

Current antipsychotics only address psychosis, also known as positive symptoms, such as hallucinations and delusions, but despite treatment patients often experience residual positive symptoms throughout their lives.

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There are no approved treatments for the negative symptoms, such as apathy, reduced social drive and loss of motivation, or cognitive symptoms, such as changes in working memory and attention, all of which currently lack any approved treatments. Current antipsychotics have modest efficacy in many patients and significant side effects. At least half of patients fail to adequately respond to current antipsychotic drugs. Additionally, current treatments are often associated with severe side effects, including sedation, extrapyramidal side effects such as motor rigidity, tremors and slurred speech and significant weight gain resulting in the complications of diabetes, hyperlipidemia, hypertension and cardiovascular disease. The clinical benefit of current antipsychotics is further limited by poor adherence.

There is an unmet need for new treatments in schizophrenia that could address the positive, negative and cognitive symptoms and are free of the problematic safety issues with existing medicines. There are currently no approved treatments for dementia-related psychosis associated with AD.

Development Status

In June 2020, Karuna announced next steps in the EMERGENT program, the clinical program evaluating KarXT for the treatment of adults with schizophrenia, following the completion of a successful End-of-Phase 2 meeting with the FDA. The outcome of the meeting supports the progression of KarXT into Phase 3 development. Karuna plans to initiate two five-week inpatient trials evaluating the efficacy and safety of KarXT for the treatment of acute psychosis in adults with schizophrenia. The first Phase 3 trial, EMERGENT-2, is expected to commence by the end of 2020. This five-week, 1:1 randomized, flexible-dose, double-blind, placebo-controlled, inpatient trial will enroll approximately 250 adults in the U.S. and evaluate the change in Positive and Negative Syndrome Scale total score at Week 5 of KarXT versus placebo as the primary outcome measure. Details of the second efficacy trial, EMERGENT-3, will be finalized by the end of 2020, with initiation expected in the first half of 2021.

In November 2019, Karuna announced topline results from a Phase 2 clinical trial of KarXT for the treatment of acute psychosis in patients with schizophrenia, in which KarXT met the trial's primary endpoint with a statistically significant ($p < 0.0001$) and clinically meaningful 11.6 point mean reduction in total PANSS scores over placebo at week five (-17.4 KarXT vs. -5.9 placebo). Karuna also observed a statistically significant 3.2 point mean reduction from baseline in the PANSS-positive subscale (-5.6 KarXT v. -2.4 placebo) and a statistically significant 2.3 point mean reduction from baseline in the PANSS-negative subscale (-3.2 KarXT v. -0.9 placebo) at week five ($p < 0.0001$ and $p < 0.001$, respectively). The total PANSS, PANSS-positive subscale, and the PANSS-negative subscale had statistically significant separation at every assessment throughout the trial.

The safety and tolerability of KarXT and dose selection for the Phase 2 clinical trial was supported by results from Karuna's two Phase 1 healthy volunteer studies in over 140 patients with KarXT. As disclosed in its public filings, Karuna observed in its first Phase 1 randomized, double-blind placebo-controlled study that the addition of trospium to xanomeline was associated with clinically meaningful reductions in the rate of the most common treatment-emergent ChAEs than reported with xanomeline plus placebo, including nausea, vomiting, diarrhea and excess sweating and salivation. The overall ChAE rate was 64 percent on xanomeline plus placebo compared to 34 percent on KarXT ($p = 0.016$). The rate of ChAEs for volunteers receiving KarXT (34 percent) was similar to the rate observed in volunteers receiving placebo during the lead-in period (32 percent), suggesting that the tolerability of KarXT was more similar to the placebo lead-in period than to treatment with xanomeline plus placebo.

Karuna's second Phase 1 study was a randomized, double-blind, placebo-controlled multiple ascending dose trial of KarXT. This trial evaluated twice-a-day dosing of the proprietary KarXT co-formulation containing fixed ratios of xanomeline and trospium, rather than the three-times-a-day dosing previously used with xanomeline. The study demonstrated tolerability at xanomeline dose levels exceeding those shown in previous studies of xanomeline alone. The co-formulation also achieved exposure levels equivalent to or higher than the separate dosage forms used previously.

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Karuna anticipates topline results from a Phase 1b clinical trial in healthy elderly volunteers to assess the safety and tolerability of KarXT by the end of 2020. This Phase 1b trial is designed to demonstrate safety and tolerability of KarXT in healthy elderly volunteers in order to select the most appropriate dose to carry forward into future studies in patients with dementia-related psychosis.

Karuna has an exclusive license for xanomeline from Eli Lilly and has a patent portfolio more broadly covering selective muscarinic targeting enabled by the KarXT approach.

Karuna has an active IND on file with the FDA for KarXT. Karuna also has ongoing discovery efforts to expand its pipeline. We do not control the clinical or regulatory development of Karuna's product candidates.

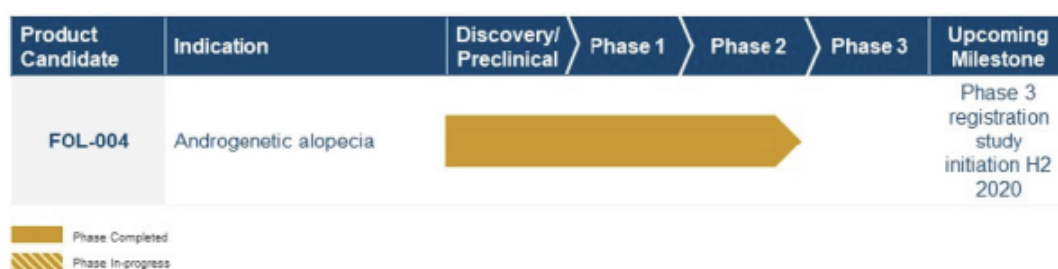
The disclosure above is qualified in its entirety by reference to Karuna's public filings with the SEC.

We do not have any board designees on Karuna's board of directors and we are not responsible for the development or commercialization of its product candidate. We have an interest in Karuna's product candidates through our equity interest as well as our right to royalty payments as a percentage of net sales of any commercialized product covered by the granted license pursuant to a license agreement between us and Karuna.

Follica

Follica is developing a regenerative biology platform designed to treat androgenetic alopecia, epithelial aging and other medical indications. Follica's approach is based on generating an "embryonic window" in adults via a series of skin disruptions, stimulating stem cells causing new hair follicles to grow. We believe that Follica's technology is the first observed to create new follicles and hair, followed by the application of specific compounds to enhance the effect.

Follica was incorporated in July 2005. The following chart summarizes the progress of Follica's platform:



Program Discovery Process by the PureTech Team

We were interested in conditions of aging and focused on hair follicles given their importance in regulating human hair and skin rejuvenation across many medical conditions. We engaged leading dermatologists and hair follicle experts and identified and in-licensed intellectual property, or IP, from George Cotsarelis, M.D., the chair of the Department of Dermatology at the University of Pennsylvania, on hair follicle neogenesis, or HFN, prior to its publication in the journal *Nature*. We translated the academic work into an in-office procedure after testing a number of modalities for initiating HFN, identified and co-invented IP around modalities and drug compounds to enhance the newly formed hair follicles and helped conduct multiple POC studies to prioritize HFN inducing modalities and prioritize potential drug compounds.

Follica's core technology and patent suite has been developed in collaboration with leading researchers, building on the work of Dr. Cotsarelis. Follica's other key scientific advisors include Richard Rox Anderson, M.D., Chairman of the Wellman Center for Photomedicine at the Massachusetts General Hospital, Ken Washenik, M.D., Ph.D., Medical Director of Bosley and the Executive Vice President of Scientific and Medical Development of the Aderans Research Institute.

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Patient Need and Market Potential

Androgenetic alopecia represents the most common form of hair loss in men and women, with an estimated 90 million people who are eligible for treatment in the United States alone. Only two drugs, both of which have demonstrated a 12 percent increase of non-vellus hair count over baseline for their primary endpoints, are currently approved for the treatment of androgenetic alopecia. The most effective current approach for the treatment of hair loss is hair transplant surgery, comprising a range of invasive, expensive procedures for a subset of patients who have enough donor hair to be eligible. As a result, Follica believes that there is significant unmet need for safe, effective, non-surgical treatments which grow new hair. Follica's regenerative biology platform has potential applications beyond hair growth to other aging-related conditions and wound healing, such as facial skin rejuvenation.

Development Status

In December 2019, Follica announced topline results from the safety and efficacy optimization study of its lead candidate to treat hair loss in male androgenetic alopecia. The study was designed to select the optimal treatment regimen using Follica's proprietary device in combination with a topical drug and successfully met its primary endpoint. The selected treatment regimen demonstrated a statistically significant 44 percent improvement of non-vellus (visible) hair count after three months of treatment compared to baseline ($p < 0.001$, $n = 19$). Across all three treatment arms, the overall improvement of non-vellus hair count after three months of treatment was 29 percent compared to baseline ($p < 0.001$, $n = 48$), reflecting a clinical benefit across the entire study population and a substantially improved outcome seen with the optimal treatment regimen. Additionally, a prespecified analysis comparing the 44 percent change in non-vellus hair count to a 12 percent historical benchmark set by approved pharmaceutical products established statistical significance ($p = 0.005$).

The study was an endpoint-blinded, randomized, controlled study designed to establish therapeutic parameters for Follica's proprietary Follica Hair Follicle Neogenesis, or HFN, device in combination with a topical on-market drug. The study involved a less than five-minute in-office experimental scalp procedure using the HFN and evaluated the optimal frequency and number of treatments across three arms. The study consisted of 48 men aged 18 to 40 who had moderate grades of androgenetic alopecia as determined by the Hamilton Norwood III-IV scale. The regimen was well tolerated across all treatment arms with no reported SAEs. No AEs were related to device treatment. A single non-severe event (headache) was determined to be related to use of the drug and is in line with minor side effects seen from treatment with the approved drug alone.

In June 2020, Follica announced the completion of a successful End-of-Phase 2 meeting with the FDA for its lead program to treat male androgenetic alopecia, which supports the progression into Phase 3 development. The initiation of a Phase 3 registration study in male androgenetic alopecia is expected in the second half of 2020. Follica has an active IND on file with the FDA for FOL-004.

In the three previously conducted clinical studies of patients with androgenetic alopecia, Follica demonstrated hair follicle neogenesis via biopsy following skin disruption, and hair growth through target area hair count. One of these studies demonstrated that skin disruption alone generates not only new hair follicles but also terminal (visible, thick) hairs. Follica has been optimizing its device and conducting tests in androgenetic alopecia and other medical indications and is further developing and testing compounds that enhance the newly formed follicles and hairs.

Follica has studied the potential for its proprietary device approach to address other regenerative conditions, including female pattern hair loss and facial skin rejuvenation. Follica also has proprietary amplification compounds in development and ongoing discovery efforts to expand its pipeline.

Our board designees represent a majority of the members of the board of directors of Follica, but Follica has its own independent management team. Our role in the development of Follica's product candidates is through our representation on its board of directors and our role as a majority shareholder.

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Vedanta Biosciences

Vedanta is developing a new category of therapies for immune-mediated diseases based on a rationally-defined consortia of human microbiome-derived bacteria. The human microbiome is increasingly implicated in various immune-mediated diseases. Vedanta is a leader in the field with capabilities and deep expertise to discover, develop and manufacture live bacteria drugs. These include what is believed to be a leading IP position with the largest collection of human microbiome-associated bacterial strains, a suite of proprietary assays to select pharmacologically potent strains, vast proprietary datasets from human interventional studies and facilities for current good manufacturing practice, or cGMP, compliant manufacturing of rationally-defined bacterial consortia in powder form. All of this work has helped move the microbiome field beyond correlation to causation, and beyond fecal transplants or fractions to defined, characterized biologic drugs.

Vedanta was incorporated in December 2010. The following chart summarizes Vedanta’s product candidates:



* In 2017, Vedanta was awarded a grant of up to \$5.4 million from CARB-X for the development of VE303. In 2018, Vedanta and Bristol-Myers Squibb announced a partnership to evaluate VE800 with Bristol-Myers Squibb’s checkpoint inhibitor Opdivo® (nivolumab) in patients with selected types of advanced or metastatic cancer. As part of the agreement, BMS will supply nivolumab, and Vedanta will conduct the clinical trial.

Program Discovery Process by PureTech Team

We were interested in translating the crosstalk between the immune system and commensal microbes that live in our bodies into therapeutics to modulate a range of immunological processes. We engaged with leading world-renowned experts in immunology, including Dr. Ruslan Medzhitov, professor of Immunobiology at Yale; Dr. Alexander Rudensky, a tri-institutional professor at the Memorial Sloan-Kettering Institute, the Rockefeller University, and Cornell University; Dr. Dan Littman, professor of Molecular Immunology at NYU; Dr. Brett Finlay, professor at the University of British Columbia; and Dr. Kenya Honda, professor at the School of Medicine, Keio University. Drs. Honda and Rudensky demonstrated the role of the microbiota in inducing regulatory T cells and uncovered some of the molecular mediators, known as short chain fatty acids.

We identified and in-licensed intellectual property from Dr. Honda when he was at Tokyo University in November 2011 before his seminal work was published in the journals *Science* and *Nature*. Based on Dr. Honda’s work, we pioneered the concept of defined consortia of microbes to modulate the immune system or treat bacterial infections. We played a critical role in the initial product development, initial experiments and planning of key clinical studies, business development and fundraising, and a core PureTech team member who helped lead the identification and platform development is now the chief executive officer of Vedanta.

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Patient Need and Market Potential

Clostridioides Difficile Infection: The Center for Disease Control and Prevention considers CDI one of the most urgent bacterial threats. *C. difficile* infections account for approximately 12,800 deaths each year in the United States alone and there are approximately 500,000 cases annually, of which 100,000 to 120,000 patients experience recurrence. Existing interventions include antibiotics such as vancomycin or metronidazole, which have the undesirable side effect of damaging the gut microbiome and leaving patients vulnerable to re-infection. An alternative intervention, fecal transplantation, is an experimental procedure which is exceedingly difficult to standardize and scale and is fraught with potential safety issues.

Inflammatory Bowel Disease: IBD is estimated to affect approximately three million people in the United States, and other autoimmune diseases affect over 20 million people in the United States. Many of the existing interventions are limited by toxicities and systemic immune suppression.

Allergies: Food allergies are a growing U.S. public health concern and have an estimated annual economic cost near \$25 billion. Peanut allergies specifically affect an estimated 2.5 million people in the United States. Current treatment options primarily center around allergen avoidance. Desensitization regimens in development have limited efficacy, are risky, require treatment for life and may not be cost-effective. Vedanta's product candidate, VE416, is being developed to safely induce permanent tolerance to food allergens including peanut allergy.

Immuno-oncology: Despite profound survival improvements in some patients, checkpoint inhibitors such as PD-1, PDL-1 and CTLA-4 are only effective in 20 to 30 percent of patients. Common tumor types where checkpoint inhibitors are utilized include lung, bladder, skin, and renal cancers. Vedanta's immuno-oncology product candidate, VE800, is designed to act in combination with approved checkpoint inhibitors and potentially other immunotherapies to safely improve their efficacy. Initial proposed indications include advanced and metastatic MSS colorectal cancers, affecting more than 46,000 U.S. patients per year, gastric cancers, affecting more than 11,000 U.S. patients per year and melanoma, affecting more than 9,000 U.S. patients per year.

The Microbiome Field: Moving Beyond Fecal Transplants and Fractions

Unlike fecal transplants, which require use of donors and are untargeted, inherently variable procedures, Vedanta's approach is based on bacterial consortia therapeutics, which are defined drug compositions produced from clonally isolated bacteria that can trigger targeted immune responses. Unlike single strain probiotics, defined consortia can robustly shift the composition of the gut microbiota and provide colonization resistance against a range of intestinal infectious pathogens.

Vedanta's novel product candidates are administered as a lyophilized powder in a capsule dosage form, designed to have specific effects on the immune system, including restoring the balance of the microbiome in the gut to treat immune and infectious diseases and immunopotentiating responses to treat cancer.

Development Status

VE303, Vedanta's product candidate for the treatment of high risk CDI, is being studied in a Phase 2 clinical trial in patients at high risk of rCDI. The trial was initiated in December 2018, and dose selection was based on the results from the Phase 1a/1b clinical trial in healthy volunteers, which showed that VE303 treatment resulted in rapid, durable, dose-dependent colonization and accelerated gut microbiota restoration after antibiotics. Clinical results for the Phase 2 clinical trial of VE303 are anticipated in 2021.

VE202, Vedanta's product candidate for IBD, was evaluated in two Phase 1 clinical trials in healthy volunteers. Vedanta announced positive topline data from these studies which showed that VE202 was generally well-tolerated at all doses and demonstrated durable and dose-dependent colonization. The trial was conducted by Janssen Research & Development, LLC, and a more complete study dataset and analyses will be submitted to a

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peer-reviewed journal. Vedanta has regained full rights to the program and will owe Janssen single-digit royalty payments on net sales of a commercialized product. Vedanta plans to take the program forward into a Phase 2 study in 2021.

VE416, Vedanta’s product candidate for food allergy, is being evaluated in a Phase 1/2 investigator sponsored trial at Mass General Hospital for Children for patients 12 years of age or older with a history of peanut allergy. The first patient was enrolled in July 2019 and will explore VE416 both as a monotherapy and in combination with an oral peanut immunotherapy over the course of several months. Topline data from the Phase 1/2 clinical trial of VE416 in food allergy are expected in 2021.

VE800, Vedanta’s immuno-oncology product candidate, is being evaluated in a first-in-patient clinical trial with Bristol-Myers Squibb’s, or BMS, checkpoint inhibitor Opdivo® (nivolumab) in patients with selected types of advanced or metastatic cancer. The trial was initiated in December 2019, and topline results are anticipated in 2021. As part of the agreement with BMS, Vedanta will conduct the clinical trial and BMS will supply nivolumab. Active INDs or the foreign regulatory equivalent are on file for VE202, VE303, VE416, and VE800.

Vedanta also has ongoing discovery efforts to expand its pipeline, including VE707. VE707 is Vedanta’s preclinical discovery program for the prevention of infection and reoccurrence of several multi-drug resistant organisms, or MDROs, including carbapenem-resistant Enterobacteriaceae, or CRE, extended-spectrum beta lactamase producers, or ESBL, and vancomycin-resistant Enterococci, or VRE, which are some of the most common hospital-acquired infections.

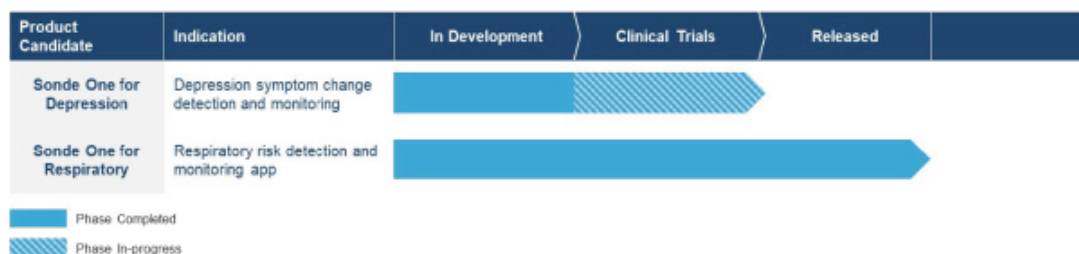
Our board designees represent a majority of the members of the board of directors of Vedanta, but Vedanta has its own independent management team. Our role in the development of Vedanta’s product candidates is through our representation on its board of directors and our role as a majority shareholder.

Sonde

Sonde Health, Inc., or Sonde, is developing a voice-based technology platform to measure health when a person speaks. Sonde’s proprietary technology is designed to sense and analyze subtle changes in the voice to create a range of persistent brain, muscle and respiratory health measurements that provide a more complete picture of health in just seconds.

We believe Sonde’s Vocal Biomarker program has demonstrated the potential to screen and monitor for disease using information obtained from an individual’s voice on commonly-owned devices, such as smartphones and smart speakers, and it has the potential to fundamentally change the way mental and physical health is screened and monitored.

Sonde was incorporated in February 2015. The following chart summarizes the progress of Sonde’s platform:



Program Discovery Process by the PureTech Team

We were interested in new ways to detect and quantify disease in a low- to no-burden manner that could allow for more proactive and potentially effective interventions. We selected vocal features as leading source of health

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data for this purpose, particularly given the evolving technology landscape where voice interactions with devices are rapidly increasing, and we identified and in-licensed proprietary technology from Thomas Quatieri, Ph.D., at MIT's Lincoln Laboratory in May 2016. Pursuant to an exclusive license agreement with Dr. Quatieri, we paid an upfront fee and are obligated to pay annual license maintenance fees, both of which we deem immaterial. Pursuant to the agreement, we are also obligated to pay MIT a low single-digit running royalty of net sales of any commercialized product covered by the agreement and a mid double-digit running royalty of net sales of any commercialized product of a party that we sublicense. MIT also is also eligible to receive milestone payments upon the achievement of specified development, regulatory and commercial milestones up to \$250,000. We developed additional, novel IP around this concept and helped advance the technology from an academic concept to a commercially-focused technology. A core PureTech team member who played a critical role in founding Sonde is currently the chief operating officer.

Patient Need and Market Potential

The lag between onset of disease and accurate diagnosis and beginning of treatment can be measured in years for many high-burden health conditions, including depression, AD, multiple sclerosis, Parkinson's disease and cardiovascular and respiratory diseases, to name just a few. Depression alone affects approximately 17 million adults in the United States. Near-continuous health information, powered by Sonde's technology, has the potential to improve screening, monitoring, and timeliness of treatment of high-cost conditions, broadly improving outcomes and care efficiency.

Development of effective therapies for CNS diseases and disorders is hampered by the high cost and inherent variability of these diseases and the reference diagnostic measures used to characterize them. Objective digital tools that can augment, and perhaps one day replace, the current clinical endpoints with novel measures that can be quantified with more meaningful accuracy and less burden can improve patient enrollment and drug development for a range of important conditions.

Development Status

As of the date of this registration statement, Sonde has collected voice data from over 50,000 subjects as a part of the ongoing validation of its platform, and it has also initiated research and development to expand its proprietary technology into AD, respiratory and cardiovascular disease, as well as other health and wellness conditions. Sonde is collaborating with the University of New South Wales and Black Dog Institute in Australia to create the first mobile device-based automatic assessment of depression from acoustic speech and has entered into collaborative partnerships with leading institutions, including UMass Memorial Medical Center, Yale University, Partners Massachusetts General Hospital and multiple other ex-US hospitals, clinics and academic medicine centers.

In July 2020, Sonde launched Sonde One for Respiratory, a new voice-enabled health detection and monitoring app, to potentially help employers improve employee safety, meet government mandates and satisfy their own administrative needs as they reopen office doors in a COVID-19 environment. Leveraging the company's advanced vocal biomarker platform and machine learning technology, Sonde One combines 6-second voice analysis, CDC-informed COVID-19 questionnaire and body temperature reporting in one app and is designed to give employees clear instructions about where they can work within one minute. Sonde partnered with corporate wellness solutions provider Wellworks for You to bring the health screening tool to market. SHI International, a 5,000-person global provider of technology products and services, is the first enterprise to enrol. The company will begin implementing the Sonde One for Respiratory app in August, as it gradually begins bringing employees back to the workplace.

Sonde is also creating the first mobile device-based automatic assessment of depression, Sonde One for Depression, a new voice-enabled health detection and monitoring app, to potentially help employers and payors improve engagement in services to address employee and patient behavioral health needs. Leveraging the

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company’s advanced vocal biomarker platform and machine learning technology, Sonde One for Depression will also combine 6-second voice analysis with validated self-report questions in one app and is designed to give employees a timely indication of how important measures of mental health and symptoms may be changing.

Sonde has ongoing discovery efforts to expand its pipeline. Sonde has obtained Institutional Review Board, or IRB, approval independently or in collaboration with partner institutions that covers all past and ongoing human data collection for research in the United States and abroad.

We have two board designee on the board of directors of Sonde, but Sonde has its own independent management team. Our role in the development of Sonde’s product candidates is through our representation on its board of directors and our role as a majority shareholder.

Alivio

Alivio is pioneering inflammation-targeted disease immunomodulation, which involves selectively restoring immune homeostasis at inflamed sites in the body, while having minimal impact on the rest of the body’s immune system, as a novel strategy to treat a range of chronic and acute inflammatory disorders. This long sought-after approach has the potential to broadly enable new medicines to treat a range of chronic and acute inflammatory disorders, including enabling the use of drugs which were previously limited by issues of systemic toxicity or PK.

To achieve the vision of selective immunomodulation, Alivio is developing a proprietary platform centered on a class of self-assembling therapies that selectively bind to inflamed tissue. Alivio’s platform has been validated in multiple labs using a range of animal models and indications. The platform is able to entrap a wide array of APIs, including small molecules, biologics and nucleic acids. By selectively targeting API pharmacology to inflamed tissue, Alivio is developing product candidates that are designed to selectively treat autoimmune disease without having related systemic toxicities. Alivio’s pipeline includes candidates for IBD, pouchitis, and interstitial cystitis or bladder pain syndrome, or IC/BPS.

Alivio was incorporated in December 2015. The following chart summarizes the progress of Alivio’s platform:



* ALV-107 preclinical development until its IND filing was supported, in part, by a \$3.3M grant from the U.S. Department of Defense and in collaboration with Purdue Pharma LP (Imbrium Therapeutics). See “Alivio—Development Status” for more information about Alivio’s agreement with Purdue.

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Program Discovery Process by the PureTech Team

A key challenge in new drug development for autoimmune and inflammatory disease is that attractive drug targets are frequently expressed in both diseased and normal tissue. Consequently, we were interested in identifying ways to address autoimmune disease in a targeted manner. We were inspired by a key observation, which is that pathologic inflammation frequently manifests at specific sites in tissues and organs and is driven by dysfunctional immune signaling. However, traditional approaches act to broadly suppress the immune system throughout the body. This mismatch substantially limits the potential targets that can be pursued and frequently results in narrow therapeutic windows. We worked with leading immunology experts and identified and in-licensed a technology created by Alivio's co-founder Jeffrey Karp, Ph.D., professor of medicine at Harvard Medical School and Brigham and Women's Hospital, and Dr. Robert Langer, David H Koch Institute Professor at MIT, that was centered around this unique inflammation-targeting and inflammation-responsive platform in May 2016. In addition to repeating key academic work and developing product candidates, Alivio continues to move those product candidates into the clinic while we oversee business development.

Patient Need and Market Potential

Results in preclinical models suggest the Alivio technology could be applied to diseases such as IBD, pouchitis, inflammatory arthritis, organ transplantation, and IC/BPS. These diseases collectively impact tens of millions of patients in the United States alone and have limited treatment options.

IC/BPS is a chronic bladder condition that consists of discomfort or pain in the bladder or surrounding pelvic region and is often associated with frequent urination. It is estimated to affect four million to 12 million people in the United States. Current treatments fail to control pain in many patients. Pouchitis is estimated to affect between 70,000 and 135,000 people in the U.S. IBD is estimated to affect approximately three million people in the United States.

Development Status

Alivio expects to file an IND for ALV-306, its lead product candidate, in pouchitis and initiate a clinical trial in 2021. Alivio also plans to file an IND for ALV-107 for IC/BPS in 2021 and an IND for ALV-304 for IBD in 2022. In December 2018, Alivio entered into a research collaboration, option and license agreement with Imbrium Therapeutics L.P., an entity affiliated with Purdue Pharma LP, or Purdue, to advance Alivio's product candidate, ALV-107, through clinical development and commercialization. Under the terms of the agreement, Alivio is eligible to receive up to \$14.8 million in upfront and near-term license option exercise payments and is eligible to receive low single digit to low teens royalties in tiers on product sales and over \$260.0 million in research and development milestones. Purdue does not currently have any ownership interest in ALV-107, but does have an option to exercise for rights to develop ALV-107 under the agreement. Purdue also has an option to collaborate on a limited number of additional compounds utilizing Alivio's inflammation-targeting technology, as well as an option to invest in Alivio's next equity financing. Alivio is also evaluating the potential application of its proprietary platform to enable the oral administration of biologics in additional indications. Alivio also has ongoing discovery efforts to expand its pipeline. We are evaluating the impact, if any, of the announced Chapter 11 bankruptcy by Purdue on this collaboration agreement.

A majority of the board of directors of Alivio are PureTech employees. These PureTech employees actively manage the day-to-day business activities of Alivio and together with Alivio's Chief Executive Officer and the board of directors of Alivio, which is controlled by PureTech, direct the strategy and decision making in connection with the clinical and regulatory development of Alivio's product candidates. As a result, we exert substantial control over the clinical and regulatory development of Alivio's product candidates. Additionally, Alivio's lab and office space is shared with our lab and office space.

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Entrega

Entrega is focused on the oral delivery of biologics, vaccines and other drugs that are otherwise not efficiently absorbed when taken orally. The vast majority of biologic drugs, including peptides, proteins and other macromolecules, are currently administered by injection, which can present challenges for healthcare delivery and compliance with treatment regimes. Entrega believes oral administration thus represents an ideal administration approach for this increasingly large class of therapies reshaping many areas of medicine, including the treatment of diabetes.

Entrega's technology platform is an innovative approach to oral delivery which uses a proprietary, customizable hydrogel dosage form to control local fluid microenvironments in the GI tract in an effort to both enhance absorption and reduce the variability of drug exposure.

Entrega was incorporated in December 2010.

Program Discovery Process by the PureTech Team

We were interested in enabling the oral administration of biologics, which has been a long-standing problem in drug development. We engaged with leading experts in drug delivery, including Dr. Langer, and screened over 100 technologies and the initial platform was licensed from Samir Mitragotri, Ph.D., professor of chemical engineering at UC Santa Barbara. We later enhanced this platform with IP developed by our team.

Other scientific and business advisors include Colin Gardner, Ph.D., former chief scientific officer of Transform Pharmaceuticals, former SVP of research and site head at Johnson & Johnson and formerly VP of pharmaceutical R&D at Merck & Co., Inc., or Merck; Rodney Pearlman, Ph.D., formerly CEO of Nuon Therapeutics, President & CEO of Saegis Pharmaceuticals; and director of pharmaceutical R&D at Genentech; Robert Armstrong, Ph.D., cofounder and chief executive officer of Boston Pharmaceuticals; and Mr. Howie Rosen, former president of ALZA.

Development Status

To validate its technology, Entrega generated POC preclinical data demonstrating delivery of therapeutic peptides into the bloodstream of large animals. Entrega received \$5 million in equity and research funding from Eli Lilly to investigate the application of its peptide delivery technology to certain Lilly therapeutic candidates. Entrega also has ongoing discovery efforts to expand its pipeline.

The management team of Entrega consists of PureTech employees, and a majority of the board of directors are PureTech designees. These PureTech employees actively manage the day-to-day business activities of Entrega and together with the board of directors of Entrega, which is controlled by PureTech, direct the strategy and decision making in connection with the clinical and regulatory development of Entrega's product candidates. As a result, we exert substantial control over the clinical and regulatory development of Entrega's product candidates. Additionally, Entrega's lab and office space is shared with our lab and office space.

Founded Entities in which PureTech has an Equity Interest, in Order of Development Stage

Akili

Akili is a leading digital therapeutics company, combining scientific and clinical rigor with the ingenuity of the tech industry with a goal of changing how medicine is developed, delivered and experienced. Akili is pioneering the development of treatments designed to have direct therapeutic activity, delivered not through a traditional pill but via a high-quality video game experience. Akili is evaluating a number of technologies and potential new digital medicines designed to target neural systems to improve associated cognitive functions. In June 2020, Akili received clearance from the FDA for EndeavorRx™ (AKL-T01) as a prescription treatment to improve

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attention function in children with attention-deficit/hyperactivity disorder, or ADHD. Also in June 2020, Akili received a Conformité Européenne, or CE Mark, certification for EndeavorRx as a prescription-only digital therapeutic intended for the treatment of attention and inhibitory control deficits in pediatric patients with ADHD. Additionally, through a collaboration and development agreement with Shionogi, Akili is pursuing regulatory approval in Japan for EndeavorRx. Akili has evaluated its platform technology in studies of various sizes across a variety of patient populations suffering from cognitive dysfunction, including adult ADHD, ASD, multiple sclerosis, or MS, major depressive disorder, or MDD, Parkinson’s-related mild cognitive impairment, or MCI, and traumatic brain injury, or TBI. Currently focused on the clinical study of the company’s patented Selective Stimulus Management Engine, or SSME™, core technology, Akili has conducted more than 30 clinical trials of SSME across a number of different diseases and disorders. Akili is also developing complementary and integrated monitoring and measurement-based care applications, including Akili Care—comprising a mobile tracking app (ADHD Insight™) and personalized dashboard showing the child’s EndeavorRx treatment and symptom/behavior tracking data and support and resources to help guide caregivers through their child’s treatment experience. Akili was incorporated in February 2012.

The following chart summarizes the current stage of product candidates that have been evaluated by Akili. Following the FDA clearance of EndeavorRx and the evolving healthcare and mental health landscape, Akili is undergoing a pipeline prioritization strategic review which may result in a change in or the addition of product candidates and/or indications in the near term.



Program Discovery Process by the PureTech Team

We were interested in identifying novel approaches to measure and improve cognition in a safe and non-invasive manner. We engaged with leading neuroscientists and clinicians who had been studying the effects of video games on cognition and the underlying neural processes accessible by sensory stimulation, and we identified and in-licensed from UCSF the intellectual property invented by Dr. Adam Gazzaley, M.D., Ph.D., professor of neurology, psychiatry and physiology at UCSF and the inventor of this platform technology, in October 2013 before his work was published as a cover story in the journal *Nature*. We then collaborated with Dr. Gazzaley to translate the underlying academic device into a medical intervention, including overseeing the initial product development and design and the implementation of the initial POC studies. We helped to build development and commercial teams and raise funds, including from the investment arms of Amgen and Merck KGaA, Darmstadt, Germany as a part of Akili’s Series B financing round. One of the core PureTech team members who helped lead the identification and platform development is now the CEO of Akili.

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Akili's FDA-cleared product, EndeavorRx, is based on a platform technology exclusively licensed from the University of California, San Francisco, or UCSF. The proprietary platform targets cognitive interference processing while also adapting difficulty automatically in real-time, allowing individuals of wide-ranging ability levels to interact with the product in their homes without the need for physician calibration or additional hardware. Dr. Gazzaley currently serves as the chief scientific advisor and a board member of Akili. Daphne Bavelier, Ph.D., associate professor in the Department of Brain and Cognitive Sciences at the University of Rochester and at the University of Geneva, is a co-founding scientific advisor.

Patient Need and Market Potential

Cognitive dysfunction is a key feature of many neuropsychiatric disorders, including ADHD, ASD, MS, MDD, MCI, TBI and AD. The treatment of the cognitive dysfunction associated with these conditions is only partially served, or not served at all, by currently available medications or by in-person behavioral therapy.

There are approximately 6.4 million pediatric ADHD patients in the United States and this market—and other markets where Akili's cognitive dysfunction targeting products may address the cognitive dysfunction associated with neuropsychiatric disorders—represent significant potential opportunities for the company.

Akili's Innovative Approach

Akili's treatment is based on a patented technology that is designed to deploy sensory and motor stimuli that target and activate the neurological systems known to play a key role in certain cognitive functions, including attentional control. Akili's approach aims to improve cognitive impairment and related symptoms through improving neural processing at the functional neurological level. The treatment is delivered through an immersive video game, resulting in non-invasive, patient-friendly medicine that can be used at home.

By combining high quality neurological and clinical science, and consumer-grade entertainment, Akili is seeking to produce a new type of medical product that can potentially offer safe, effective, scalable and personalized treatments for patients across a range of neuropsychiatric conditions, and allow patients to experience medicine in a new way.

Development Status

Akili has evaluated its SSME technology across a variety of patient populations, including pediatric and adult ADHD, ASD, MS, MDD, MCI and TBI.

In June 2020, Akili announced that the FDA has granted clearance for EndeavorRx as a prescription treatment for improving attention function in children with ADHD. Delivered through a captivating video game experience, EndeavorRx is indicated to improve attention function as measured by computer-based testing in children ages 8-12 years old with primarily inattentive or combined-type ADHD, who have a demonstrated attention issue. Akili expects that the EndeavorRx treatment will be available with a prescription to families soon. The FDA clearance followed the April announcement that ENDEAVOR™ would be available for use for a limited time by children with ADHD and their families in response to new guidance from the FDA recognizing the need for access to certain low-risk clinically-validated digital health devices for psychiatric conditions, including ADHD, during the COVID-19 pandemic. Also in June 2020, Akili announced that it had received approval to market EndeavorRx in Europe. Akili received a CE Mark certification for EndeavorRx as a prescription-only digital therapeutic intended for the treatment of attention and inhibitory control deficits in pediatric patients with ADHD. The CE Mark approval enables the future marketing of EndeavorRx in European Economic Area member countries. With a near-term focus on launching the EndeavorRx prescription treatment in the U.S. first, Akili is exploring expansion opportunities in Europe as part of its global strategy.

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Akili's EndeavorRx was evaluated in a multi-center, randomized, blinded, controlled pivotal study in 348 pediatric ADHD patients. In this study, AKL-T01 achieved its primary endpoint, showing a statistically significant change in the Attention Performance Index, a composite score of attention from the Test of Variables of Attention, or T.O.V.A.[®], compared to an expectancy matched digital control (p=0.006). There were no SAEs or discontinuations. Of participants using EndeavorRx, 9.2 percent experienced TRAEs which were mild and included frustration (2.8 percent) and headache (1.7 percent). Mean patient compliance with AKL-T01 was 83 percent of instructed use. Subjective secondary outcome measures, including the ADHD Rating Scale and the Impairment Rating Scale, showed statistically significant improvements in both the treatment and control groups and there was no statistically significant separation on those measures between groups.

In January 2020, Akili announced that a study achieved its primary endpoint evaluating the effects of EndeavorRx in children with ADHD when used with and without stimulant medication. The study achieved its predefined primary efficacy outcome, demonstrating a statistically significant improvement in the ADHD Impairment Rating Scale, or IRS, from baseline after one month of treatment (p<0.001) in both children taking stimulant medications and in those not taking stimulants.

In March 2019, Akili entered into a strategic partnership with Shionogi for the development and commercialization of AKL-T01 and AKL-T02 (in development for children with ASD) in Japan and Taiwan. Under the terms of the agreement, Akili will build and own the platform technology and received upfront payments totaling \$20 million with potential milestone payments for Japan and Taiwan commercialization of up to an additional \$105 million in addition to royalties. Akili and Shionogi have initiated a clinical study in preparation for a regulatory submission in Japan.

Akili is planning to build its own commercial distribution platform for its digital therapeutic products to enable launch in a variety of commercial models. The company is building Akili Care, an integrated system for patient service, data processing, and distribution functions for its initial product launch, to allow flexibility, learning, and iteration as it continues to invest in the delivery of digital therapeutic solutions to the market. Akili's Shionogi partnership is structured to enable the implementation of this localized platform in Japan. Multiple IRBs have determined AKL-T01 to be a non-significant risk device. Akili has obtained IRB approval independently or in collaboration with independent clinical research institutions for all past and ongoing human data collection for clinical research in the United States. We do not control the clinical or regulatory development of Akili's product candidates.

We do not have a direct interest in Akili's product or product candidates. Our interest in Akili's product and product candidates is limited to our equity interest in Akili and any potential appreciation in the value of such equity interest, and we do not control the clinical or regulatory development of Akili's product candidates.

Vor Biopharma

Vor Biopharma, or Vor, is taking a fundamentally novel approach for targeting cancer selectively by addressing the detrimental effects of on-target toxicity to healthy tissue. Vor is developing engineered hematopoietic stem cells, or eHSCs, for the treatment of hematological cancers. Vor's differentiated approach is designed to enable broad targeting of lineage antigens, which are attractive targets but face serious limitations, since they are expressed on both healthy cells and cancerous cells.

Vor's eHSCs do not display a particular antigen, therefore making these antigens tumor-specific and potentially safer to target while protecting the healthy blood cells from depletion. This enables maximal targeted therapy doses to be administered without fear of on-target toxicity. Vor's approach may also enable new targeted therapies to be developed that otherwise would be too toxic to consider developing.

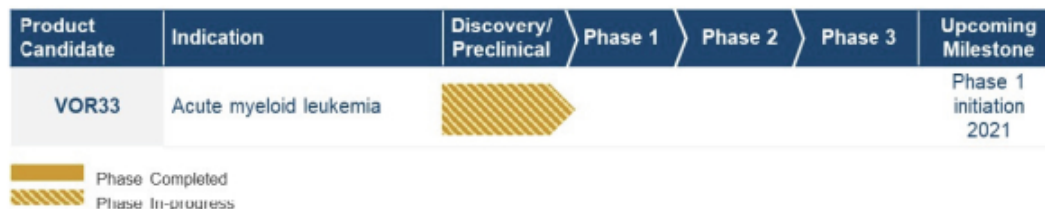
Vor's technology is enabled via gene editing of hematopoietic stem cells, generating eHSCs which can be transplanted into patients as part of standard transplant procedures. Transplants can be performed prior to the targeted therapy or the targeted therapy can be used prior to the hematopoietic stem cell transplantation. Vor is

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starting by editing CD33 expression, where CD33 is highly expressed in acute myeloid leukemia, or AML, and other myeloid leukemias. Vor’s approach could potentially be expanded to other antigens which are present in broad ranges of other hematological malignancies.

Vor’s platform can potentially be used to improve the safety profile of targeted therapies, such as antibody drug conjugates, bispecific antibodies, chimeric antigen receptor T cells, or CAR-T cells, and others, expanding their reach beyond B-cell malignancies to other myeloid leukemias, such as AML, as well as enhancing the effectiveness of similar therapies. When combined with targeted therapies, this technology could potentially enable transformative outcomes in patients with otherwise grim prognoses.

Vor was incorporated in December 2015. The following chart summarizes Vor’s product candidates:



Program Discovery Process by the PureTech Team

We were interested in approaches to treat hematological malignancies that currently have poor response rates or poor adverse event profiles despite recent advances in cell therapies and targeted therapies. We engaged leading hematological cancer specialists and we became aware of work from the laboratory of Vor Scientific Board chair Siddhartha Mukherjee, M.D., Ph.D., assistant professor of Medicine at Columbia University and Pulitzer Prize-winning author of *The Emperor of All Maladies: A Biography of Cancer*. Dr. Mukherjee pioneered the idea of genetically engineering stem cells to eliminate a particular target such that healthy stem cells and progeny cells would be spared from targeted cancer therapy. We worked with Dr. Mukherjee on this IP, which we exclusively in-licensed from Columbia in April 2016, and on advancing this concept through critical POC experiments. We have filed additional intellectual property (both in-licensed from Columbia and owned by Vor), assembling an excellent research team and completing a round of fundraising.

In July 2019, Bill Lundberg, M.D., was appointed to Vor’s board of directors. In August 2019, Robert Ang, MBBS, MBA, was appointed president and chief executive officer of Vor. In June 2020, Vor announced the appointment of Nathan Jorgensen, Ph.D., as chief financial officer, in July 2020, Vor announced the appointments of Daniella Beckman and David Lubner to its board of directors and Christopher Slapak, M.D., as chief medical officer, and in August 2020, Vor announced the appointment of John King as chief commercial officer.

Patient Need and Market Potential

The prognosis for relapsed and refractory blood-borne malignancies is very poor and can be measured in a few months, depending on patient-specific risk factors. For example, for acute myeloid leukemia, or AML, which affects approximately 60,000 patients at any one time in the United States, only about 30 percent of patients with active disease following a bone marrow transplant survive past 12 months.

Targeted therapies, such as CAR-T cells and bispecific antibodies, antibody-drug conjugates, and conventional mAbs, have shown excellent outcomes, particularly in patients with certain hematologic malignancies expressing B cell markers. However, these targeted therapies frequently target both cancer and normal cells, causing substantial toxicities and limiting their potential. There is a need for new strategies that can enable selectively targeting cancer cells without impacting a patient’s normal cells.

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Development Status

Vor's lead product candidate, VOR33, is a novel HSC therapy in development for AML consisting of donor-derived HSCs that are engineered to lack the cell surface protein CD33. When removed from the cell surface, VOR33 eHSCs lack cell surface expression of CD33, do not appear to have any measurable changes to their biological function and have been shown to be highly resistant to attack from CD33-targeted therapies. When infused into a patient, these eHSCs are designed to mature and differentiate into a full spectrum of healthy immune and blood cells that would be unaffected by the cancer treatment. This approach has the potential to minimize targeted therapy toxicities and maximize the potency of anti-CD33 therapies for treating AML. Vor held a pre-IND meeting with the FDA in January 2020 to gather important feedback to assemble the data package necessary for a potential IND filing. The company expects to initiate a Phase 1 study of VOR33 in AML in 2021.

In May 2019, preclinical research was published in the scientific journal *Proceedings of the National Academy of Sciences* supporting Vor's novel approach to treating cancer via engineered hematopoietic stem cells.

Vor has achieved *ex vivo* POC for its technology and received validation of its technology in engineered humanized mouse models. Vor also has ongoing discovery efforts to expand its pipeline. We do not control the clinical or regulatory development of Vor's product candidates.

We do not have a direct interest in Vor's product candidate. Our interest in Vor's product candidate is limited to our equity interest in Vor and any potential appreciation in the value of such equity interest and we do not control the clinical or regulatory development of Vor's product candidate.

Manufacturing

We currently source most of our nonclinical and clinical compound supply through third-party contract manufacturing organizations, or CMOs.

For clinical supply, we use CMOs who act in accordance with the FDA's GLP and current good manufacturing practices, cGMP, for the manufacture of drug substance and product. Manufacturing of any product candidate is subject to extensive regulations that impose various procedural and documentation requirements, which govern recordkeeping, manufacturing processes and controls, personnel, quality control and quality assurance, among others. We expect that all of our contract manufacturing organizations will manufacture our Wholly Owned product candidates under current Good Manufacturing Practice, or cGMP, conditions. cGMP is a regulatory standard for the production of pharmaceuticals to be used in humans.

We believe there are multiple sources for all of the non-proprietary materials required for the manufacture of our internal product candidates. Our manufacturing strategy enables us to more efficiently direct financial resources to the research, development, and potential commercialization of product candidates rather than diverting resources to internally develop manufacturing facilities. As our Wholly Owned product candidates advance through development, we expect to enter into longer-term commercial supply agreements with key suppliers and manufacturers to fulfill and secure the ongoing and planned preclinical, clinical, and, if our Wholly Owned product candidates are approved for marketing, our commercial supply needs for ourselves and our collaborators.

Our Founded Entities independently manufacture or contract to manufacture their products and product candidates.

Sales and Marketing

We do not have our own marketing, sales or distribution capabilities. In order to commercialize our Wholly Owned product candidates if approved for commercial sale, we must either develop a sales and marketing infrastructure or collaborate with third parties that have sales and marketing experience. We plan to directly commercialize our Wholly Owned product candidates in the United States and for some indications, we may also

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directly commercialize our Wholly Owned product candidates in the European Union. In other markets or for certain indications outside the United States for which commercialization may be less capital efficient for us, we may selectively pursue strategic collaborations with third parties in order to maximize the commercial potential of our Wholly Owned product candidates.

As our Founded Entities begin to commercialize product candidates approved for commercial sale, they will independently develop a sales and marketing infrastructure or enter into collaborations with third parties to do so. We will not have control over or direct the sales and marketing efforts of our Founded Entities. As of the date of this registration statement, only one of our Founded Entities, Gelesis, has a product cleared by the FDA and all sales and marketing efforts related to Gelesis' planned U.S. launch of Plenity will be undertaken by Gelesis.

Intellectual Property

We strive to protect the proprietary technologies that we believe are important to our business, including pursuing and maintaining patent protection intended to cover novel platform technologies relating to our Wholly Owned Programs, our corresponding product candidates and their methods of use, as well as other technologies that are important to our business. In addition to patent protection, we also rely on trade secrets to protect aspects of our business for which we do not consider patent protection appropriate. The intellectual property covering the technologies, products and product candidates for the programs involving our subsidiaries are handled directly by our respective subsidiaries and we are not actively involved in the management of subsidiary intellectual property.

LYT-100

We acquired LYT-100 and all of the associated IP rights thereof, from Auspex. We are also obligated to make payments to Auspex in connection with certain development, regulatory and sales milestones and pay royalties on sales of the product upon commercialization. We plan to advance LYT-100 for the treatment of various lymphatic disorders, including lymphedema.

As of June 30, 2020, the LYT-100 patent portfolio includes 31 active patents acquired, and one patent application licensed from Auspex. These patents and application provide broad coverage of compositions of matter, formulations and methods of use for deuterated pifrenidone, including the LYT-100 deupifrenidone compound, comprising six issued U.S. patents, which are expected to expire in 2028, one U.S. patent application which if issued, is expected to expire in 2035, and 25 patents issued in 23 foreign jurisdictions, without taking into account any possible patent term extension or regulatory exclusivities. In addition, we have filed additional patent applications on deupifrenidone, including 14 pending U.S. patent applications and one international PCT application directed to the use of deuterated pifrenidone, including LYT-100 deupifrenidone, for the treatment of a range of conditions involving inflammation and fibrosis and disorders of lymphatic flow of lymphedema and other relevant disorders. Any issued patents claiming priority to these applications are expected to expire in 2039 through 2041, exclusive of possible patent term adjustments or extensions or other exclusivities.

LYT-200 and LYT-210

LYT-200 is an investigational fully human mAb targeting galectin-9, a global immunosuppressor that facilitates a tumor-permissive microenvironment, for use in the treatment of solid tumors and other cancers. LYT-210 is an investigational fully human mAb targeting gd T cells.

We have broad intellectual property coverage for these antibody-based immunotherapy technologies, including exclusive rights to nine families of patent filings that are exclusively licensed from or co-owned with New York University which cover antibodies that target immunosuppressive agents and mechanisms and methods of use for the treatment of solid tumors, such as pancreatic cancer, CRC, melanoma, gastric cancer, breast cancer and various other cancers, and one family of patent filings that cover antibodies directed to pro-inflammatory gdT cells for use in the treatment of inflammatory conditions, such as autoimmune disorders, for example, IBD, ulcerative colitis, Crohn's disease and celiac disease, among others.

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We exclusively licensed and co-own a patent portfolio of ten patent families from New York University. As of June 30, 2020, there are five families of intellectual property within this patent portfolio covering compositions of matter and methods of use for antibodies targeting galectin-9, including LYT-200, which in total comprise two issued U.S. patents which are expected to expire in 2038, seven pending U.S. patent applications, which if issued, are expected to expire 2037-2040, three international PCT applications, and 12 pending applications in foreign jurisdictions. There are two families covering compositions of matter and methods of use for antibodies targeting gdT cells, including LYT-210, which are directed to the use of these antibodies for the treatment of cancer and pro-inflammatory and autoimmune disorders, which in total comprise one granted U.S. patent, one pending U.S. patent application and two international PCT applications. In addition, there are two additional families of intellectual property covering compositions of matter and methods of use for related IO technologies, which in total comprise six patent applications in U.S. and foreign jurisdictions. Our issued patents and any patents issuing from pending applications with respect to LYT-200 are expected to expire in between 2038 and 2040, any patents issuing from pending applications with respect to LYT-210 are expected to expire in between 2039 and 2040, and our additional families of pending applications are expected to expire in 2037, all of which expiration dates are exclusive of possible patent term adjustments or extensions or other periods of exclusivity.

Oral Biotherapeutics Program

We have broad intellectual property coverage for our Orasome technology platform. Our Orasome technology platform IP portfolio covers compositions of matter, methods of use and methods of treatment spanning various platform-based technologies, as well as various broad classes of Orasome-formulated therapeutics, which include nucleic acid-based therapeutics (such as messenger RNA, short interfering RNA and antisense oligonucleotide-based approaches), small molecules, biologics (such as peptides, proteins and antibodies), expression systems for biologics and other therapeutics for use in the treatment of a wide range of diseases and disorders, including various immunological disorders, such as cancers and inflammatory diseases. In addition, we licensed patents and patent application on certain milk exosome technology of oral administration of biotherapeutics.

As of June 30, 2020, our Orasome technology platform patent portfolio consists of ten U.S. and five foreign patent applications and one pending international PCT application in seven patent families. Any patents to issue from the patent applications are expected to expire in 2037 through 2041, exclusive of possible patent term adjustments or extensions or other forms of exclusivity. We exclusively licensed a patent portfolio consisting of two patent families from 3P Biotechnologies, Inc., based on certain milk exosome technology originating from the University of Louisville. In addition, we exclusively licensed a patent portfolio consisting of two patent families from NuTech Ventures, based on certain milk exosome technology originating from the University of Nebraska.

Glyph Technology Platform

We have broad intellectual property coverage for our proprietary Glyph technology platform, which includes exclusively licensed and co-owned patent applications, as well as company-owned patent applications. These patent applications cover compositions of matter, methods of use and methods of treatment encompassing specific chemical modifications, including a wide range of novel linker chemistries, as well as various classes of lymphatic targeting therapeutics, which include prodrugs for a large number of APIs, for use in the treatment of a wide range of diseases and disorders. The most advanced of these is LYT-300, which is an oral form of FDA-approved allopregnanolone, a natural neurosteroid, that may be applicable to a range of neurological conditions.

As of June 30, 2020, our Glyph technology platform IP portfolio consists of 19 patent families comprising 19 U.S. patent applications, four international PCT applications and 14 foreign patent applications. Of these, company-owned IP consists of 12 U.S. patent applications in nine patent families. We exclusively licensed and co-own a patent portfolio of 10 patent families comprising 20 U.S. and foreign patent applications and four international PCT applications from Monash University. Of these patent applications, LYT-300 is covered by two patent families comprising one international PCT application and two U.S. patent applications, all of which

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are co-owned with Monash University. Any patents to issue from the in-licensed patent applications are expected to expire in 2035-2036 and any issued patents from the co-owned and company-owned patent applications are expected to expire in 2038-2041, exclusive of possible patent term adjustments or extensions or other forms of exclusivity.

Meningeal Lymphatics Discovery Research Program

We have broad intellectual property coverage around our meningeal lymphatics discovery research program, which includes exclusively licensed patent applications covering compositions of matter, methods of use and methods of treatment encompassing its platform-based brain lymphatic technologies, including the identification of macromolecular targets, as well as various classes of brain lymphatic targeting therapeutics for use in the treatment of a wide range of neurodegenerative and neuroinflammatory conditions, as well as various neuropathies and cancers.

As of June 30, 2020, our meningeal lymphatics discovery research program patent portfolio consists of eight patent families comprising eight U.S. patent applications, two international PCT applications and five foreign patent applications exclusively licensed from the University of Virginia Licensing & Ventures Group, and one family of one U.S. application exclusively owned by PureTech. Any patents to issue from the in-licensed patent applications are expected to expire in 2037 through 2041, exclusive of possible patent term adjustments or extensions or other forms of exclusivity.

Our commercial success depends in part upon our ability to obtain and maintain patent and other proprietary protection for commercially important technologies, inventions and know-how related to our business, defend and enforce our intellectual property rights, particularly our patent rights, preserve the confidentiality of our trade secrets and operate without infringing valid and enforceable intellectual property rights of others.

The patent positions for biotechnology companies like us are generally uncertain and can involve complex legal, scientific and factual issues. In addition, the coverage claimed in a patent application can be significantly reduced before a patent is issued, and its scope can be reinterpreted and even challenged after issuance. As a result, we cannot guarantee that any of our technologies and product candidates will be protectable or remain protected by valid and enforceable patents. We cannot predict whether the patent applications we are currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient proprietary protection from competitors. Any patents that we hold may be challenged, circumvented or invalidated by third parties.

Founded Entities' Intellectual Property Overview

Our Founded Entities, other than Alivio and Entrega, maintain their own intellectual property portfolios and manage their intellectual property strategy. The ownership percentages for each of our Founded Entities noted below, other than Karuna, are calculated on a diluted (as opposed to voting) basis, including outstanding shares, options and warrants, but excluding unallocated shares authorized to be issued pursuant to equity incentive plans. Karuna ownership is shown on an outstanding share basis.

Gelesis

As of June 30, 2020, Gelesis' platform has broad intellectual property coverage worldwide, including over 120 patents and patent applications in 11 families, several of which are issued in the United States and numerous foreign jurisdictions, including the EU, Canada, Japan, Russia and South Korea. The filings cover pharmaceutical composition of matter, methods of use, and methods of making polymer hydrogels for use in weight management and glycemic control, as well as predicting weight loss and treating obesity, chronic constipation, NASH, NAFLD, and IBD. Gelesis' issued patent and any patents issuing from pending applications are expected to expire in 2027 through 2038, exclusive of possible patent term adjustments or extensions or other forms of exclusivity.

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We own 21.0 percent of Gelesis as of June 30, 2020. Our board designees represent a minority of the members of the board of directors of Gelesis and we are not responsible for the development or commercialization of its product candidates. We have an interest in Gelesis' product candidates through our equity investment as well as our right to royalty payments as a percentage of net sales pursuant to a license agreement between us and Gelesis. Gelesis maintains its own intellectual property portfolio and manages its intellectual property strategy.

Karuna

Karuna has broad intellectual property coverage worldwide, including, according to Karuna's annual report on Form 10-K filed March 24, 2020, two issued U.S. patents directed to an oral medicament comprising certain doses of xanomeline and/or the salt thereof in combination with certain doses of trospium chloride and two issued U.S. patents directed to methods for treating central nervous system disorders using combinations of certain oral doses of xanomeline and/or the salt thereof and certain oral doses of trospium chloride. They also have one issued patent in Canada and one in Europe, with other patent applications pending in the U.S., Europe, Hong Kong and Japan.

We own 12.8 percent of Karuna as of August 26, 2020 on an outstanding voting share basis. We do not have any board designees on Karuna's board of directors and we are not responsible for the development or commercialization of its product candidate. We have an interest in Karuna's product candidates through our equity investment as well as our right to royalty payments as a percentage of net sales pursuant to a license agreement between us and Karuna. Karuna maintains its own intellectual property portfolio and manages its intellectual property strategy.

Follica

As of June 30, 2020, Follica's regenerative biology program has broad worldwide intellectual property coverage, including over 16 pending patent applications, and over 49 issued patents (of which 32 are design patents), in 10 families of patent filings, which are company-owned or exclusively licensed. The intellectual property covers composition of matter and methods of treatment including combination therapies employing disruption approaches and active agents, as well as devices to promote hair follicle regeneration.

We own 78.3 percent of Follica as of June 30, 2020 and continue to play a role in the development of its product candidates through our majority representation on its board of directors. We also have an interest in Follica's product candidates through our right to royalty payments as a percentage of net sales pursuant to a royalty agreement between us and Follica. Follica maintains its own intellectual property portfolio and manages its intellectual property strategy.

Vedanta

As of June 30, 2020, Vedanta has broad intellectual property coverage worldwide, currently owning or having rights to more than 140 patent applications and issued patents in over 22 families of patent filings. Vedanta's IP estate positions the company as a leader in the microbiome field. Vedanta's IP portfolio includes patents covering compositions and therapeutic uses of products containing microbiome bacteria belonging to Clostridium clusters IV and XIVa, which are among the most abundant colonizers of the human intestine and play an important role in human health, including regulating inflammatory responses and other immune responses. The IP estate includes issued patents in the major pharmaceutical markets, including the United States, Europe and Japan. These patents provide coverage through at least 2031, with priority filing dates as early as 2010.

We own 50.4 percent of Vedanta as of June 30, 2020 and continue to play a role in the development of its product candidates through our majority representation on its board of directors. Vedanta maintains its own intellectual property portfolio and manages its intellectual property strategy.

Sonde

As of June 30, 2020, Sonde has broad intellectual property coverage worldwide, currently owning or having exclusive rights to eight patent applications and 10 issued patents in five families of patent filings. Sonde has

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filed several patent applications covering a number of facets of its technology in addition to the IP that was licensed from MIT. Sonde's issued patent and any patents issuing from pending applications are expected to expire in 2031 through 2037, exclusive of possible patent term adjustments or extensions or other forms of exclusivity.

We own 45.8 percent of Sonde as of June 30, 2020 and continue to play a role in the development of its product candidates through our representation on its board of directors. Sonde maintains its own intellectual property portfolio and manages its intellectual property strategy.

Alivio

As of June 30, 2020, Alivio has broad intellectual property coverage in multiple countries, currently owning or having exclusive rights to 24 patent applications and six issued patents in nine families of patent filings. Alivio's IP estate covers composition of matter, novel formulations, and methods of using nanostructured gels for the delivery of therapeutic agents. Alivio's issued patent and any patents issuing from pending applications are expected to expire in 2036 through 2039, exclusive of possible patent term adjustments or extensions or other forms of exclusivity.

We own 78.6 percent of Alivio as of June 30, 2020 and continue to play a role in the development of its product candidates. The management team of Alivio consists of PureTech employees, and a majority of the board of directors are PureTech designees. These PureTech employees actively manage the day-to-day business activities of Alivio and, together with the board of directors of Alivio, which is controlled by PureTech, direct the strategy and decision making in connection with the clinical and regulatory development of Alivio's product candidates. We maintain Alivio's intellectual property portfolio and manage its intellectual property strategy.

Entrega

As of June 30, 2020, Entrega has broad intellectual property coverage worldwide, including 10 patent applications in six families of patent filings. Entrega's patent portfolio covers oral drug devices, drug formulations, compositions of matter, methods of use and methods of making hydrogel dosage forms for delivery of active agents. Any patents issuing from pending applications are expected to expire in 2033 through 2039, exclusive of possible patent term adjustments or extensions or other forms of exclusivity.

We own 72.9 percent of Entrega as of June 30, 2020 and continue to play a role in the development of its product candidates. The management team of Entrega consists of PureTech employees, and a majority of the board of directors are PureTech designees. These PureTech employees actively manage the day-to-day business activities of Entrega and, together with the board of directors of Entrega, which is controlled by PureTech, direct the strategy and decision making in connection with the clinical and regulatory development of Entrega's product candidates. We maintain Entrega's intellectual property portfolio and manage its intellectual property strategy.

Akili

As of June 30, 2020, Akili's IP portfolio covers digital intervention that targets interference processing through a proprietary mechanism with adaptive algorithms to improve cognitive function and related symptoms associated with neurological and psychiatric conditions. The IP estate also covers novel adaptive algorithms and reward structures invented by Akili to apply to various neural targeting algorithms. Akili owns or has exclusive rights to nine issued or granted patents and is actively pursuing additional patent applications worldwide.

We own 34.0 percent of Akili as of June 30, 2020. We do not have a direct interest in Akili's product candidates. Our interest in Akili's product candidates is limited to our equity investment in Akili and we do not control the clinical or regulatory development of Akili's product candidates. Akili maintains its own intellectual property portfolio and manages its intellectual property strategy.

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Vor

As of June 30, 2020, Vor is pursuing broad intellectual property coverage worldwide to protect Vor's proprietary platform technology and product candidates, such as VOR33, with pending and granted claims to compositions of matter, methods of use, related technologies, diagnostics and other complimentary inventions. Vor's worldwide IP portfolio includes over 40 patent applications in eight families, including three issued US patents. Vor's portfolio includes patents licensed exclusively from Columbia University as well as patents owned by Vor.

We own 11.8 percent of Vor as of June 30, 2020, assuming all future tranches of the most recent financing round are funded. We do not have a direct interest in Vor's product candidate. Our interest in Vor's product candidate is limited to our equity investment in Vor, and we do not control the clinical or regulatory development of Vor's product candidate. Vor maintains its own intellectual property portfolio and manages its intellectual property strategy.

License Agreements

Wholly Owned Programs

We have a disciplined strategy to advance our Wholly Owned Programs and technologies through a combination of internal funding and non-dilutive funding from external collaborations, such as with other biopharmaceutical companies and grant funding organizations. Given the breadth of applications envisioned from our internal platform technologies, we have a strategy to maximize the value of our Wholly Owned Programs through partnerships with other biopharmaceutical companies, that also serves to not only advance these technologies but also provide important external validation for our technologies. In April 2019, we entered into a collaboration and license agreement with Boehringer Ingelheim, or BI, to evaluate the feasibility of applying our IGlyph technology platform to advance certain of BI's immuno-oncology product candidates. Our proposed approach harnesses the gut's lipid transport mechanisms to enable oral administration and transport of drug candidates directly through the gut-draining lymphatic vasculature, also bypassing first pass metabolism in the liver. We plan to continue to partner with other biopharmaceutical companies to develop product candidates that we believe have promising utility in disease areas or patient populations that are better served by resources of larger biopharmaceutical companies.

Another example of this strategy is the Research and License Agreement that we entered into with New York University, or NYU, on March 6, 2017, pursuant to which NYU granted to us an exclusive worldwide license to patents relating to LYT-200 and LYT-210. In connection with this agreement, we are required to pay an annual license fee in addition to milestone payments upon the achievement of certain clinical and commercial milestones, both of which we deem immaterial. Additionally, for the term of this agreement, we are obligated to make low single digit royalty payments on the net sales of any commercialized product covered by the license granted under the agreement. In the event that we sublicense any of the patent rights granted under the Research and License Agreement, we will be obligated to pay NYU a low teen percentage of any royalties received by such sublicensee, provided that such payments are capped at a low single digit of net sales of any commercialized product by such sublicensee.

We have also entered into exclusive license agreements with each of Monash University, University of Louisville, , Memorial Sloan Kettering Cancer Center and University of Virginia, pursuant to which we have in-licensed certain early stage technology for our Wholly Owned Programs Pursuant to these agreements, the universities are entitled to non-material payments upon the achievement of certain specified development and sales based milestones. Additionally, the universities are entitled to low single digit royalty payments on net sales of any products covered by their intellectual property.

Founded Entities

Gelesis

We entered into a Royalty and Sublicense Income Agreement with Gelesis, dated December 18, 2009, pursuant to which we are required to provide certain funding, management services and intellectual property relating to

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intellectual property. In exchange, Gelesis is required to pay us a royalty equal to 2 percent of all net product sales and 10 percent of gross sublicense income received on certain food products as a result of developing hydrogel-based products that are covered by a licensed patent that has issued and has not been revoked or abandoned. The royalty rate is subject to customary downward adjustments in the event Gelesis is required to pay third parties to obtain a license to intellectual property rights that are necessary for Gelesis to develop or commercialize our products. There are no milestone payment obligations under this agreement. Management services provided by us include advisory services on corporate strategy, general and administrative support including office space, supplies and administrative support, payroll services and website development and support. Gelesis' obligation to pay royalties to us will terminate on a country-by-country basis upon termination or expiration of the underlying patents. To date, we have not received any royalty payments pursuant to this agreement. We do not direct or control the development and commercialization of the intellectual property sublicensed pursuant to this agreement.

Karuna

We entered into an Exclusive Patent License Agreement with Karuna, dated March 4, 2011, pursuant to which we granted Karuna an exclusive license to patent rights relating to combinations of a muscarinic activator with a muscarinic inhibitor for the treatment of central nervous system disorders. Karuna agreed to make milestone payments to us of up to an aggregate of \$10 million upon the achievement of specified development and regulatory milestones. In addition, for the term of this agreement Karuna is obligated to pay us low single-digit running royalties on the worldwide net sales of any commercialized product covered by the licenses granted under this agreement. In the event that Karuna sublicenses any of the patent rights granted under this agreement, Karuna will be obligated to pay us royalties within the range of 15 percent to 25 percent on any income received from the sublicensee, excluding royalties. Karuna may terminate this agreement for any reason with proper prior notice to us, provided that it would lose its rights to the underlying patents as a result. Either party may terminate this agreement upon an uncured material breach by the other party. To date, we have not received any royalty payments pursuant to this agreement. We do not direct or control the development and commercialization of the intellectual property licensed pursuant to this agreement.

Follica

We entered into an Exclusive Patent License Agreement with Follica, dated July 16, 2008, pursuant to which we granted Follica an exclusive license to patent rights relating to composition of matter and methods of treatment including combination therapies employing disruption approaches and active agents for the treatment of aging-related disorders and other medical indications. Pursuant to the agreement, Follica is obligated to make milestone payments to us of up to an aggregate \$1 million upon the achievement of specified development and regulatory milestones. For the term of this agreement, Follica is obligated to pay to us low single-digit running royalties on net sales of any commercialized product, process or service that would infringe a valid claim of patent rights but for the license granted pursuant to this agreement. Additionally, for ten years following the first commercial sale of any commercialized product, process or service covered by the license granted under this agreement, Follica is obligated to pay us low single-digit know-how royalties on net sales for use in any country where such commercialized product, process or service is not covered by a valid claim of patent rights. In the event that Follica sublicenses any of the patents granted to it under this agreement, Follica will be obligated to pay us royalties within the range of mid single-digit and mid teen percentages of any income received from the sublicensee. We may terminate this agreement upon written notice from Follica that it has conclusively abandoned all efforts with respect to the development or commercialization of licensed products, processes and services. Either party may terminate this agreement upon an uncured material breach by the other party. To date, we have not received any royalty payments pursuant to this agreement. We do not direct or control the development and commercialization of the intellectual property licensed pursuant to this agreement.

We entered into a Royalty Agreement with Follica, dated July 23, 2013, pursuant to which Follica agreed to pay us a two percent royalty on net sales by Follica or its sublicensees of (i) products involving skin disruption using

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any mechanical, energy or chemical based approaches, applying compounds to the skin, or any other approaches to the treatment of hair follicles or other dermatological disorders commercialized by Follica. (ii) processes involving such products, or (iii) services which use or incorporate any such product or process. In the event that Follica sublicenses the rights to any of these products, processes or services, Follica will be obligated to pay us low teen royalties on any income received from the sublicensee. Either party may terminate this agreement upon an uncured material breach by the other party. To date, we have not received any royalty payments pursuant to this agreement. We do not direct or control the development and commercialization of the intellectual property licensed pursuant to this agreement.

Competition

The biotechnology and pharmaceutical industries utilize rapidly advancing technologies and are characterized by intense competition. There is also a strong emphasis on intellectual property and proprietary products. We believe that expertise and capabilities across the BIG therapeutic areas, technology, drug discovery and development provide us with a competitive advantage. However, we will continue to face competition from different sources including major pharmaceutical companies, biotechnology companies, academic institutions, government agencies, and public and private research institutions. In addition, there are companies that are working on potential medicines targeting the Brain-Immune-Gut and many companies that have approved therapeutics for some of our target indications. For any products that we eventually commercialize, we will not only compete with existing therapies but also compete with new therapies that may become available in the future.

In addition to the competition we will face from the parties described above, we face competition for certain of the product candidates we are developing internally.

LYT-100

We are aware of one current drug product candidate in development for secondary lymphedema. Herantis Pharma is developing Lymfactin, an adenoviral VEGF-C gene therapy used alongside lymph node transfer surgery to treat lymphedema.

The other current treatments for lymphedema include durable medical goods, such as compression sleeves and garments, and surgical options, including liposuction and debulking. A novel investigational surgery, lymph node transfer, is also being tested.

LYT-200

Although we are not aware of any direct competitors targeting galectin-9, if we are successful in developing LYT-200 as an immuno-oncology treatment we would expect to compete with currently approved IO therapies and those that may be developed in the future. Current marketed IO products include CTLA-4, such as BMS' Yervoy, and PD-1/PD-L1, such as BMS' Opdivo, Merck's Keytruda and Genentech's Tecentriq, and T cell-engager immunotherapies, such as Amgen's Blincyto.

In the field of IPF, there are two approved drugs, pirfenidone (Esbriet), marketed by Roche, and nintedanib (Ofev), marketed by Boehringer Ingelheim. These drugs have unfavorable tolerability profiles, leading to sustained unmet need for novel therapies. Other potential competitive product candidates in various stages of development include, but are not limited to, Galapagos NV's GLPS1690 in Phase 3 clinical trials, Fibrogen's pamrevlumab in Phase 3 clinical trials, Roche/Promedior, Inc.'s PRM-151 which is expected to enter a Phase 3 trial in the second half of 2020, Liminal BioSciences' PBI-4050 is in Phase 2 clinical development, Pliant Therapeutics' PLN-74809 in Phase 2 clinical development, Kadmon Holding, Inc.'s KD025 in Phase 2 clinical development, BMS' BMS-986278 in Phase 2 clinical development, BMS/Celgene's CC-90001 in Phase 2 clinical development, Galecto's GB0139 in Phase 2 clinical development, Blade Therapeutics's BLD-2660 in Phase 1 clinical development and Avalyn's AP01 in Phase 1 clinical development.

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In the field of COVID-19, there are numerous clinical trials for prevention of COVID-19 using vaccines, or for acute treatment of COVID-19 using anti-viral and anti-inflammatory agents. However, we are only aware of investigator sponsored trials that have been undertaken with pirfenidone and nintedanib for respiratory complications following COVID-19 infection.

LYT-210

To the best of our knowledge, there are no competitors in the space of immunosuppressive gd T cells. However, Gamma Delta Therapeutics, Gadeta, TC Biopharm, Adicet Bio are developing gd T cell based therapies at various stages of development. Lava Therapeutics is developing gd T cells engaging antibodies and ImCheck is developing antibodies to target affecting gd T cell expansion in tissues.

LYT-300

In the field of GABA_A positive allosteric modulators, there is one approved drug, allopregnanolone (Zulresso), marketed by Sage Therapeutics. This drug is administered via a 60 hour IV infusion, leading to sustained unmet need for novel therapies. Other potential competitive product candidates in various stages of development include, but are not limited to, Sage Therapeutics's SAGE-2017 (Zuranolone) in Phase 3 clinical development, Marinus Pharmaceuticals's Ganaxolone in Phase 3 clinical development and Praxis's PRAX-114 in Phase 2 clinical development.

Other Programs

We are not aware of any direct competitors to our Glyph, Orasome and meningeal lymphatics platforms, but they may compete with new therapies that become available in the future to target the indications we are focused on. There are several exosome programs being developed but to the best of our knowledge none of them are targeting oral delivery or using milk, thus differentiating our approach. Competitors developing exosomes or engineered exosomes to deliver payloads include Inc AstraZeneca plc, Capricor Therapeutics, Evox Therapeutics Ltd, ArunA Biomedical Inc, ExoCoBio Inc, Codiak Biosciences, Inc. and Exopharm Ltd.

Government Regulation

Government authorities in the United States, at the federal, state and local level, and in other countries and jurisdictions, including the European Union, extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, post-approval monitoring and reporting, and import and export of drugs, biological products and medical devices. The processes for obtaining regulatory approvals in the United States and in foreign countries and jurisdictions, along with subsequent compliance with applicable statutes and regulations, require the expenditure of substantial time and financial resources.

U.S. Government Regulation of Drug and Biological Products

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and its implementing regulations and biologics under the FDCA and the Public Health Service Act, or PHS Act, and their implementing regulations. Both drugs and biologics also are subject to other federal, state and local statutes and regulations, such as those related to competition. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, and local statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or following approval may subject an applicant to administrative actions or judicial sanctions. These actions and sanctions could include, among other actions, the FDA's refusal to approve pending applications, withdrawal of an approval, license revocation, a clinical hold, untitled or warning letters, voluntary or mandatory product recalls or market withdrawals, product seizures, total

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or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement and civil or criminal fines or penalties. Any agency or judicial enforcement action could have a material adverse effect on our business, the market acceptance of our products and our reputation.

Product candidates must be approved by the FDA through either a new drug application, or NDA, or a biologics license application, or BLA, process before they may be legally marketed in the United States. The process generally involves the following:

- completion of nonclinical, or preclinical, laboratory tests, animal studies and formulation studies in compliance with the FDA's GLP regulations;
- submission to the FDA of an investigational new drug application, or IND, which must take effect before human clinical trials may begin;
- approval by an independent IRB representing each clinical site before each clinical trial may be initiated at that site;
- performance of adequate and well-controlled human clinical trials in accordance with good clinical practices, or GCPs, to establish the safety and efficacy of the proposed drug product for each indication;
- preparation and submission to the FDA of an NDA or BLA, and payment of user fees;
- a determination by the FDA within 60 days of its receipt of an NDA or BLA to accept the application for substantive review;
- review of the product by an FDA advisory committee, where appropriate or if applicable;
- satisfactory completion of one or more FDA pre-approval inspections of the manufacturing facility or facilities where the drug or biologic will be produced to assess compliance with Current Good Manufacturing Practices, or cGMP, requirements to assure that the facilities, methods and controls are adequate to preserve the drug or biologic's identity, strength, quality and purity;
- satisfactory completion of potential FDA audits of clinical trial sites to assure compliance with GCPs and the integrity of the clinical data; and
- FDA review and approval of the NDA, including consideration of the views of any FDA advisory committee, prior to any commercial marketing or sale of the drug or biologic in the United States.

Preclinical Studies

Before testing any drug or biological product candidate in humans, the product candidate must undergo rigorous preclinical testing. Preclinical studies include laboratory evaluation of product chemistry and formulation, as well as in vitro and animal studies to assess safety and in some cases to establish a rationale for therapeutic use. The conduct of preclinical studies is subject to federal and state regulations and requirements, including GLP regulations.

The IND and IRB Processes

An IND is an exemption from the FDCA that allows an unapproved drug or biological product to be shipped in interstate commerce for use in an investigational clinical trial and a request for FDA authorization to administer such investigational drug or biological product to humans. Such authorization must be secured prior to interstate shipment and administration of the investigational drug or biological product. In an IND, applicants must submit a protocol for each clinical trial and any subsequent protocol amendments. In addition, the results of the preclinical tests, manufacturing information, analytical data, any available clinical data or literature and plans for clinical trials, among other things, are submitted to the FDA as part of an IND. Some long-term preclinical testing, such as animal tests of reproductive AEs and carcinogenicity, may continue after the IND is submitted.

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The FDA requires a 30-day waiting period after the filing of each IND before clinical trials may begin. At any time during this 30-day period, the FDA may raise concerns or questions about the conduct of the trials as outlined in the IND and impose a clinical hold. In this case, the IND sponsor and the FDA must resolve any outstanding concerns before clinical trials can begin.

Following commencement of a clinical trial under an IND, the FDA may also place a clinical hold or partial clinical hold on that trial due to safety concerns or non-compliance with specific FDA requirements. A clinical hold is an order issued by the FDA to the sponsor to delay a proposed clinical investigation or to suspend an ongoing investigation. A partial clinical hold is a delay or suspension of only part of the clinical work requested under the IND. No more than 30 days after imposition of a clinical hold or partial clinical hold, the FDA will provide the sponsor a written explanation of the basis for the hold. Following issuance of a clinical hold or partial clinical hold, an investigation may only resume after the FDA has notified the sponsor that the investigation may proceed. The FDA will base that determination on information provided by the sponsor correcting the deficiencies previously cited or otherwise satisfying the FDA that the investigation can proceed.

A sponsor may choose, but is not required, to conduct a foreign clinical study under an IND. When a foreign clinical study is conducted under an IND, all FDA IND requirements must be met unless waived. When the foreign clinical study is not conducted under an IND, the FDA may accept data from such study if the sponsor ensures that the study is conducted in accordance with GCP, including review and approval by an independent ethics committee, or IEC, and informed consent from subjects. The FDA must also be able to validate the data from the study through an on-site inspection if necessary.

In addition to the foregoing IND requirements, an IRB representing each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must conduct continuing review of the study at least annually. The IRB must review and approve, among other things, the study protocol and informed consent information to be provided to study subjects. An IRB must operate in compliance with FDA regulations. An IRB can suspend or terminate approval of a clinical trial at its institution, or an institution it represents, if the clinical trial is not being conducted in accordance with the IRB's requirements or if the product candidate has been associated with unexpected serious harm to patients.

Additionally, some trials are overseen by an independent group of qualified experts organized by the trial sponsor, often known as a data safety monitoring board or committee. This group provides authorization for whether or not a trial may move forward at designated check points based on access that only the group maintains to available data from the study. Suspension or termination of development during any phase of clinical trials can occur if it is determined that the subjects or patients are being exposed to an unacceptable health risk. Other reasons for suspension or termination may be made by us based on evolving business objectives and/or competitive climate.

Information about certain clinical trials must be submitted within specific timeframes to the NIH for public dissemination on its ClinicalTrials.gov website. Information related to the product, patient population, phase of investigation, study sites and investigators and other aspects of the clinical trial is made public as part of the registration of the clinical trial. Although sponsors are obligated to disclose the results of their clinical trials after completion, disclosure of the results can be delayed in some cases for up to two years after the date of completion of the trial. Failure to timely register a covered clinical study or to submit study results as provided for in the law can give rise to civil monetary penalties and also prevent the non-compliant party from receiving future grant funds from the federal government. The NIH's Final Rule on ClinicalTrials.gov registration and reporting requirements became effective in 2017, and both NIH and FDA recently signaled the government's willingness to begin enforcing those requirements against non-compliant clinical trial sponsors.

Clinical Trials

The clinical stage of development involves the administration of the investigational product to healthy volunteers or patients under the supervision of qualified investigators, generally physicians not employed by or under the

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trial sponsor's control, in accordance with GCP requirements, which include the requirement that all research subjects provide their informed consent for their participation in any clinical trial. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria, the parameters to be used to monitor subject safety and the effectiveness criteria to be evaluated.

Human clinical trials are typically conducted in three sequential phases, which may overlap or be combined:

- *Phase 1.* The drug is initially introduced into healthy human subjects or, in certain indications such as cancer, patients with the target disease or condition and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion and, if possible, to gain an early indication of its effectiveness and to determine optimal dosage.
- *Phase 2.* The drug is administered to a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.
- *Phase 3.* The drug is administered to an expanded patient population, generally at geographically dispersed clinical trial sites, in well-controlled clinical trials to generate enough data to evaluate the efficacy and safety of the product for approval, to establish the overall risk-benefit profile of the product and to provide adequate information for the labeling of the product.

In August 2018, the FDA released a draft guidance entitled "Expansion Cohorts: Use in First-In-Human Clinical Trials to Expedite Development of Oncology Drugs and Biologics," which provides information for drug developers regarding the design and conduct of first-in-human clinical trials designed to expedite the clinical development of cancer drugs, including biological products, through multiple expansion cohort trials. Expansion cohort trials are designed to expedite development by seamlessly proceeding from the initial determination of a potentially effective dose to individual cohorts that have trial objectives typical of Phase 2 trials, such as evaluation of anti-tumor activity, or confirming the safety of a RP2D. Information to support the design of individual expansion cohorts are included in IND applications and assessed by FDA.

Post-approval trials, sometimes referred to as Phase 4 clinical trials, may be conducted after initial marketing approval. These trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication and are commonly intended to generate additional safety data regarding use of the product in a clinical setting. In certain instances, the FDA may mandate the performance of Phase 4 clinical trials as a condition of approval of an NDA or BLA.

Progress reports detailing the results of the clinical trials, among other information, must be submitted at least annually to the FDA and written IND safety reports must be submitted to the FDA and the investigators 15 days after the trial sponsor determines the information qualifies for reporting for serious and unexpected suspected AEs, findings from other studies or animal or *in vitro* testing that suggest a significant risk for human subjects and any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The sponsor must also notify the FDA of any unexpected fatal or life-threatening suspected adverse reaction as soon as possible but in no case later than seven calendar days after the sponsor's initial receipt of the information.

Phase 1, Phase 2, Phase 3 and other types of clinical trials may not be completed successfully within any specified period, if at all. The FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug or biologic has been associated with unexpected serious harm to patients. Concurrent with clinical trials, companies usually complete additional animal studies and also must develop additional information about the chemistry and physical characteristics of

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the drug or biologic as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product and, among other things, companies must develop methods for testing the identity, strength, quality and purity of the final product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the product candidates do not undergo unacceptable deterioration over their shelf life.

FDA Review Process

Following completion of the clinical trials, data are analyzed to assess whether the investigational product is safe and effective for the proposed indicated use or uses. The results of preclinical studies and clinical trials are then submitted to the FDA as part of an NDA or BLA, along with proposed labeling, chemistry and manufacturing information to ensure product quality and other relevant data. The NDA or BLA is a request for approval to market the drug or biologic for one or more specified indications and must contain proof of safety and efficacy for a drug or safety, purity and potency for a biologic. The application may include both negative and ambiguous results of preclinical studies and clinical trials, as well as positive findings. Data may come from company-sponsored clinical trials intended to test the safety and efficacy of a product's use or from a number of alternative sources, including studies initiated by investigators. To support marketing approval, the data submitted must be sufficient in quality and quantity to establish the safety and efficacy of the investigational product to the satisfaction of FDA. FDA approval of an NDA or BLA must be obtained before a drug or biologic may be marketed in the United States.

Under the Prescription Drug User Fee Act, or PDUFA, as amended, each NDA or BLA must be accompanied by a user fee. FDA adjusts the PDUFA user fees on an annual basis. Fee waivers or reductions are available in certain circumstances, including a waiver of the application fee for the first application filed by a small business. Additionally, no user fees are assessed on NDAs or BLAs for products designated as orphan drugs, unless the product also includes a non-orphan indication.

The FDA reviews all submitted NDAs and BLAs before it accepts them for filing, and may request additional information rather than accepting the NDA or BLA for filing. The FDA must make a decision on accepting an NDA or BLA for filing within 60 days of receipt, and such decision could include a refusal to file by the FDA. Once the submission is accepted for filing, the FDA begins an in-depth review of the NDA or BLA. Under the goals and policies agreed to by the FDA under PDUFA, the FDA targets ten months, from the filing date, in which to complete its initial review of a new molecular entity NDA or original BLA and respond to the applicant, and six months from the filing date of a new molecular entity NDA or original BLA designated for priority review. The FDA does not always meet its PDUFA goal dates for standard and priority NDAs or BLAs, and the review process is often extended by FDA requests for additional information or clarification.

Before approving an NDA or BLA, the FDA will conduct a pre-approval inspection of the manufacturing facilities for the new product to determine whether they comply with cGMP requirements. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. The FDA also may audit data from clinical trials to ensure compliance with GCP requirements. Additionally, the FDA may refer applications for novel products or products which present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions, if any. The FDA is not bound by recommendations of an advisory committee, but it considers such recommendations when making decisions on approval. The FDA likely will reanalyze the clinical trial data, including in connection with an advisory committee meeting, which could result in extensive discussions between the FDA and the applicant during the review process. After the FDA evaluates an NDA or BLA, it will issue an approval letter or a Complete Response Letter. An approval letter authorizes commercial marketing of the drug or biologic with specific prescribing information for specific indications. A Complete Response Letter indicates that the review

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cycle of the application is complete and the application will not be approved in its present form. A Complete Response Letter usually describes all of the specific deficiencies in the NDA or BLA identified by the FDA. The Complete Response Letter may require the applicant to obtain additional clinical data, including the potential requirement to conduct additional pivotal clinical trial(s) and/or to complete other significant and time-consuming requirements related to clinical trials, or to conduct additional preclinical studies or manufacturing activities. If a Complete Response Letter is issued, the applicant may either resubmit the NDA or BLA, addressing all of the deficiencies identified in the letter, or withdraw the application or request an opportunity for a hearing. Even if such data and information are submitted, the FDA may decide that the NDA or BLA does not satisfy the criteria for approval.

Expedited Development and Review Programs

A sponsor may seek to develop and obtain approval of its product candidates under programs designed to accelerate the development, FDA review and approval of new drugs and biologics that meet certain criteria. For example, the FDA has a fast track program that is intended to expedite or facilitate the process for reviewing new drugs and biologics that are intended to treat a serious or life threatening disease or condition and demonstrate the potential to address unmet medical needs for the condition. Fast track designation applies to both the product and the specific indication for which it is being studied. For a fast track-designated product, the FDA may consider sections of the NDA or BLA for review on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the application, the FDA agrees to accept sections of the application and determines that the schedule is acceptable and the sponsor pays any required user fees upon submission of the first section of the application. The sponsor can request the FDA to designate the product for fast track status any time before receiving NDA or BLA approval, but ideally no later than the pre-NDA or pre-BLA meeting.

A product submitted to the FDA for marketing, including under a fast track program, may be eligible for other types of FDA programs intended to expedite development or review, such as priority review and accelerated approval. Priority review means that, for a new molecular entity or original BLA, the FDA sets a target date for FDA action on the marketing application at six months after accepting the application for filing as opposed to ten months. A product is eligible for priority review if it is designed to treat a serious or life-threatening disease condition and, if approved, would provide a significant improvement in safety and effectiveness compared to available therapies. The FDA will attempt to direct additional resources to the evaluation of an application for a new drug or biologic designated for priority review in an effort to facilitate the review. If criteria are not met for priority review, the application for a new molecular entity or original BLA is subject to the standard FDA review period of ten months after FDA accepts the application for filing. Priority review designation does not change the scientific/medical standard for approval or the quality of evidence necessary to support approval.

A product may also be eligible for accelerated approval if it is designed to treat a serious or life-threatening disease or condition and demonstrates an effect on either a surrogate endpoint that is reasonably likely to predict clinical benefit or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, or IMM, that is reasonably likely to predict an effect on IMM or other clinical benefit, taking into account the severity, rarity, or prevalence of the disease or condition and the availability or lack of alternative treatments. As a condition of approval, the FDA may require that a sponsor of a drug or biologic receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product. FDA may withdraw approval of a drug or indication approved under accelerated approval if, for example, the confirmatory trial fails to verify the predicted clinical benefit of the product.

Additionally, a drug or biologic may be eligible for designation as a breakthrough therapy if the product is intended, alone or in combination with one or more other drugs or biologics, to treat a serious or life-threatening condition and preliminary clinical evidence indicates that the product may demonstrate substantial improvement

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over currently approved therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. If the FDA designates a breakthrough therapy, it may take actions appropriate to expedite the development and review of the application, which may include holding meetings with the sponsor and the review team throughout the development of the therapy; providing timely advice to, and interactive communication with, the sponsor regarding the development of the drug to ensure that the development program to gather the nonclinical and clinical data necessary for approval is as efficient as practicable; involving senior managers and experienced review staff, as appropriate, in a collaborative, cross-disciplinary review; assigning a cross-disciplinary project lead for the FDA review team to facilitate an efficient review of the development program and to serve as a scientific liaison between the review team and the sponsor; and considering alternative clinical trial designs when scientifically appropriate, which may result in smaller trials or more efficient trials that require less time to complete and may minimize the number of patients exposed to a potentially less efficacious treatment. Breakthrough therapy designation comes with all of the benefits of fast track designation, which means that the sponsor may file sections of the BLA for review on a rolling basis if certain conditions are satisfied, including an agreement with the FDA on the proposed schedule for submission of portions of the application and the payment of applicable user fees before the FDA may initiate a review.

Even if a product qualifies for one or more of these programs, the FDA may later decide that the product no longer meets the conditions for qualification or the time period for FDA review or approval may not be shortened. Furthermore, fast track designation, priority review, accelerated approval and breakthrough therapy designation do not change the standards for approval.

Post-Marketing Requirements

Following approval of a new product, the manufacturer and the approved product are subject to continuing regulation by the FDA, including, among other things, monitoring and record-keeping activities, reporting of adverse experiences, complying with promotion and advertising requirements, which include restrictions on promoting products for unapproved uses or patient populations (known as “off-label use”) and limitations on industry-sponsored scientific and educational activities. Although physicians may prescribe legally available products for off-label uses, manufacturers may not market or promote such uses. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability, including investigation by federal and state authorities. Prescription drug promotional materials must be submitted to the FDA in conjunction with their first use or first publication. Further, if there are any modifications to the drug or biologic, including changes in indications, labeling or manufacturing processes or facilities, the applicant may be required to submit and obtain FDA approval of a new NDA/BLA or NDA/BLA supplement, which may require the development of additional data or preclinical studies and clinical trials.

The FDA may also place other conditions on approvals including the requirement for a Risk Evaluation and Mitigation Strategy, or REMS, to assure the safe use of the product. If the FDA concludes a REMS is needed, the sponsor of the NDA or BLA must submit a proposed REMS. The FDA will not approve the NDA or BLA without an approved REMS, if required. A REMS could include medication guides, physician communication plans or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. Any of these limitations on approval or marketing could restrict the commercial promotion, distribution, prescription or dispensing of products. Product approvals may be withdrawn for non-compliance with regulatory standards or if problems occur following initial marketing.

FDA regulations require that products be manufactured in specific approved facilities and in accordance with cGMP regulations. Manufacturers must comply with cGMP regulations that require, among other things, quality control and quality assurance, the maintenance of records and documentation and the obligation to investigate and correct any deviations from cGMP. Manufacturers and other entities involved in the manufacture and distribution of approved drugs or biologics are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for

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compliance with cGMP requirements and other laws. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain cGMP compliance. The discovery of violative conditions, including failure to conform to cGMP regulations, could result in enforcement actions, and the discovery of problems with a product after approval may result in restrictions on a product, manufacturer or holder of an approved NDA or BLA, including recall.

Once an approval is granted, the FDA may issue enforcement letters or withdraw the approval of the product if compliance with regulatory requirements and standards is not maintained or if problems occur after the drug or biologic reaches the market. Corrective action could delay drug or biologic distribution and require significant time and financial expenditures. Later discovery of previously unknown problems with a drug or biologic, including AEs of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or voluntary product recalls;
- fines, warning or untitled letters or holds on post-approval clinical trials;
- refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or revocation of product approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs and biologics may be promoted only for the approved indications and in accordance with the provisions of the approved label. However, companies may share truthful and not misleading information that is otherwise consistent with a product's FDA approved labeling. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

In addition, the distribution of prescription pharmaceutical products is subject to the Prescription Drug Marketing Act, or PDMA, which regulates the distribution of drugs and drug samples at the federal level, and sets minimum standards for the registration and regulation of drug distributors by the states. Both the PDMA and state laws limit the distribution of prescription pharmaceutical product samples and impose requirements to ensure accountability in distribution.

Hatch-Waxman Amendments

Section 505 of the FDCA describes three types of marketing applications that may be submitted to the FDA to request marketing authorization for a new drug. A Section 505(b)(1) NDA is an application that contains full reports of investigations of safety and efficacy. A 505(b)(2) NDA is an application that contains full reports of investigations of safety and efficacy but where at least some of the information required for approval comes from investigations that were not conducted by or for the applicant and for which the applicant has not obtained a right of reference or use from the person by or for whom the investigations were conducted. This regulatory pathway enables the applicant to rely, in part, on the FDA's prior findings of safety and efficacy for an existing product, or published literature, in support of its application. Section 505(j) establishes an abbreviated approval process for a generic version of approved drug products through the submission of an Abbreviated New Drug Application, or ANDA. An ANDA provides for marketing of a generic drug product that has the same active ingredients, dosage form, strength, route of administration, labeling, performance characteristics and intended use, among other things, to a previously approved product, known as a reference listed drug, or RLD. ANDAs

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are termed “abbreviated” because they are generally not required to include preclinical (animal) and clinical (human) data to establish safety and efficacy. Instead, generic applicants must scientifically demonstrate that their product is bioequivalent to, or performs in the same manner as, the innovator drug through *in vitro*, *in vivo*, or other testing. The generic version must deliver the same amount of active ingredients into a subject’s bloodstream in the same amount of time as the innovator drug and can often be substituted by pharmacists under prescriptions written for the reference listed drug.

Non-Patent Exclusivity

Under the Hatch-Waxman Amendments, the FDA may not approve (or in some cases accept) an ANDA or 505(b)(2) application until any applicable period of non-patent exclusivity for the RLD has expired. The FDCA provides a period of five years of non-patent data exclusivity for a new drug containing a new chemical entity, or NCE. For the purposes of this provision, an NCE is a drug that contains no active moiety that has previously been approved by the FDA in any other NDA. An active moiety is the molecule or ion responsible for the physiological or pharmacological action of the drug substance. In cases where such NCE exclusivity has been granted, non 505(b)(2) NDA referencing the approved product or ANDA may be filed for substantive review by the FDA until the expiration of five years unless the submission is accompanied by a Paragraph IV certification, which states the proposed 505(b)(2) or generic drug will not infringe one or more of the already approved product’s listed patents or that such patents are invalid or unenforceable, in which case the applicant may submit its application four years following the original product approval.

The FDCA also provides for a period of three years of exclusivity for non-NCE drugs if the NDA or a supplement to the NDA includes reports of one or more new clinical investigations, other than bioavailability or bioequivalence studies, that were conducted by or for the applicant and are essential to the approval of the application or supplement. This three-year exclusivity period often protects changes to a previously approved drug product, such as a new dosage form, route of administration, combination or indication, but it generally would not protect the original, unmodified product from generic competition. Unlike five-year NCE exclusivity, an award of three-year exclusivity does not block the FDA from accepting 505(b)(2) NDAs referencing the approved drug product or ANDAs seeking approval for generic versions of the drug as of the date of approval of the original drug product; it only prevents FDA from approving such 505(b)(2) NDAs or ANDAs.

Hatch-Waxman Patent Certification and the 30-Month Stay

In seeking approval of an NDA or a supplement thereto, NDA sponsors are required to list with the FDA each patent with claims that cover the applicant’s product or an approved method of using the product. Upon approval, each of the patents listed by the NDA sponsor is published in the FDA’s Approved Drug Products with Therapeutic Equivalence Evaluations, commonly known as the Orange Book. Upon submission of an ANDA or 505(b)(2) NDA, an applicant is required to certify to the FDA concerning any patents listed for the RLD in the Orange Book that:

- no patent information on the drug product that is the subject of the application has been submitted to the FDA;
- such patent has expired;
- the date on which such patent expires; or
- such patent is invalid, unenforceable or will not be infringed upon by the manufacture, use, or sale of the drug product for which the application is submitted.

Generally, the ANDA or 505(b)(2) NDA cannot be approved until all listed patents have expired, except where the ANDA or 505(b)(2) NDA applicant challenges a listed patent through the last type of certification, also known as a paragraph IV certification. If the applicant does not challenge the listed patents or indicates that it is not seeking approval of a patented method of use, the ANDA or 505(b)(2) NDA application will not be approved

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until all of the listed patents claiming the referenced product have expired. If the ANDA or 505(b)(2) NDA applicant has provided a paragraph IV certification the applicant must send notice of the paragraph IV certification to the NDA and patent holders once the application has been accepted for filing by the FDA. The NDA and patent holders may then initiate a patent infringement lawsuit in response to the notice of the paragraph IV certification. If the paragraph IV certification is challenged by an NDA holder or the patent owner(s) asserts a patent challenge to the paragraph IV certification, the FDA may not approve that application until the earlier of 30 months from the receipt of the notice of the paragraph IV certification, the expiration of the patent, when the infringement case concerning each such patent was favorably decided in the applicant's favor or settled, or such shorter or longer period as may be ordered by a court. This prohibition is generally referred to as the 30-month stay. In instances where an ANDA or 505(b)(2) NDA applicant files a paragraph IV certification, the NDA holder or patent owner(s) regularly take action to trigger the 30-month stay, recognizing that the related patent litigation may take many months or years to resolve. Thus, approval of an ANDA or 505(b)(2) NDA could be delayed for a significant period of time depending on the patent certification the applicant makes and the reference drug sponsor's decision to initiate patent litigation. If the drug has NCE exclusivity and the ANDA or 505(b)(2) NDA is submitted four years after approval, the 30-month stay is extended so that it expires seven and a half years after approval of the innovator drug, unless the patent expires or there is a decision in the infringement case that is favorable to the ANDA or 505(b)(2) NDA applicant before then.

Patent Term Restoration and Extension

Depending upon the timing, duration and specifics of FDA approval of our future product candidates, some of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, commonly referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit restoration of the patent term of up to five years as compensation for patent term lost during the FDA regulatory review process. Patent-term restoration, however, cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date and only those claims covering such approved drug product, a method for using it or a method for manufacturing it may be extended. The patent-term restoration period is generally one-half the time between the effective date of an IND and the submission date of an NDA or BLA plus the time between the submission date of an NDA or BLA and the approval of that application, except that the review period is reduced by any time during which the applicant failed to exercise due diligence. Only one patent applicable to an approved drug is eligible for the extension and the application for the extension must be submitted prior to the expiration of the patent. The USPTO, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration. In the future, we may apply for restoration of patent term for our currently owned or licensed patents to add patent life beyond its current expiration date, depending on the expected length of the clinical trials and other factors involved in the filing of the relevant NDA or BLA.

Orphan Drug Designation and Exclusivity

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biological product intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making the product available in the United States for this type of disease or condition will be recovered from sales of the product.

Orphan drug designation must be requested before submitting an NDA or BLA. After the FDA grants orphan drug designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan drug designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product that has orphan drug designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan drug exclusivity, which means that

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the FDA may not approve any other applications to market the same drug for the same indication for seven years from the date of such approval, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity by means of greater effectiveness, greater safety or providing a major contribution to patient care or in instances of drug supply issues. Competitors, however, may receive approval of either a different product for the same indication or the same product for a different indication but that could be used off-label in the orphan indication. If an orphan designated product receives marketing approval for an indication broader than what is designated, it may not be entitled to orphan exclusivity. Orphan drug status in the European Union has similar, but not identical, requirements and benefits.

Pediatric Information and Pediatric Exclusivity

Under the Pediatric Research Equity Act, or PREA, certain NDAs and BLAs and certain supplements to an NDA or BLA must contain data to assess the safety and efficacy of the drug for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may grant deferrals for submission of pediatric data or full or partial waivers. The Food and Drug Administration Safety and Innovation Act, or FDASIA, amended the FDCA to require that a sponsor who is planning to submit a marketing application for a drug that includes a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration submit an initial Pediatric Study Plan, or PSP, within 60 days of an end-of-Phase 2 meeting or, if there is no such meeting, as early as practicable before the initiation of the Phase 3 or Phase 2/3 study. The initial PSP must include an outline of the pediatric study or studies that the sponsor plans to conduct, including study objectives and design, age groups, relevant endpoints and statistical approach, or a justification for not including such detailed information, and any request for a deferral of pediatric assessments or a full or partial waiver of the requirement to provide data from pediatric studies along with supporting information. The FDA and the sponsor must reach an agreement on the PSP. A sponsor can submit amendments to an agreed-upon initial PSP at any time if changes to the pediatric plan need to be considered based on data collected from preclinical studies, early phase clinical trials and/or other clinical development programs.

A drug or biologic product can also obtain pediatric market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric study in accordance with an FDA-issued "Written Request" for such a study.

Biosimilars and Exclusivity

Certain of our product candidates are regulated as biologics. An abbreviated approval pathway for biological products shown to be similar to, or interchangeable with, an FDA-licensed reference biological product was created by the Biologics Price Competition and Innovation Act of 2009, or BPCI Act, as part of the Affordable Care Act, or the ACA. This amendment to the PHSA, in part, attempts to minimize duplicative testing. Biosimilarity, which requires that the biological product be highly similar to a biologic already licensed by the FDA pursuant to a BLA notwithstanding minor differences in clinically inactive components and that there be no clinically meaningful differences between the product and the reference product in terms of safety, purity and potency, can be shown through analytical studies, animal studies and a clinical trial or trials. Interchangeability requires that a biological product be biosimilar to the reference product and that the product can be expected to produce the same clinical results as the reference product in any given patient and, for products administered multiple times to an individual, that the product and the reference product may be alternated or switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biological product without such alternation or switch. Complexities associated with the larger, and often more complex, structure of biological products as compared to small molecule drugs, as well as the processes by which such products are manufactured, pose significant hurdles to implementation that are still being worked out by the FDA.

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A reference biological product is granted four and twelve year exclusivity periods from the time of first licensure of the product. FDA will not accept an application for a biosimilar or interchangeable product based on the reference biological product until four years after the date of first licensure of the reference product, and FDA will not approve an application for a biosimilar or interchangeable product based on the reference biological product until twelve years after the date of first licensure of the reference product. “First licensure” typically means the initial date the particular product at issue was licensed in the United States. Date of first licensure does not include the date of licensure of (and a new period of exclusivity is not available for) a biological product if the licensure is for a supplement for the biological product or for a subsequent application by the same sponsor or manufacturer of the biological product (or licensor, predecessor in interest, or other related entity) for a change (not including a modification to the structure of the biological product) that results in a new indication, route of administration, dosing schedule, dosage form, delivery system, delivery device or strength, or for a modification to the structure of the biological product that does not result in a change in safety, purity, or potency. Therefore, one must determine whether a new product includes a modification to the structure of a previously licensed product that results in a change in safety, purity, or potency to assess whether the licensure of the new product is a first licensure that triggers its own period of exclusivity. Whether a subsequent application, if approved, warrants exclusivity as the “first licensure” of a biological product is determined on a case-by-case basis with data submitted by the sponsor.

U.S. Government Regulation of Medical Devices

General Requirements

Under the FDCA, a medical device is an instrument, apparatus, implement, machine, contrivance, implant, *in vitro* reagent, or other similar or related article, including any component part, or accessory which is: (i) recognized in the official National Formulary, or the United States Pharmacopoeia, or any supplement to them; (ii) intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, in man or other animals; or (iii) intended to affect the structure or any function of the body of man or other animals, and which does not achieve any of its primary intended purposes through chemical action within or on the body of man or other animals and which is not dependent upon being metabolized for the achievement of any of its primary intended purposes.

In the United States, medical devices are subject to extensive regulation by the FDA under the FDCA, and its implementing regulations, and certain other federal and state statutes and regulations. The laws and regulations govern, among other things, the research and development, design, testing, manufacture, packaging, storage, recordkeeping, approval, labeling, promotion, post-approval monitoring and reporting, distribution and import and export of medical devices. Failure to comply with applicable requirements may subject a device and/or its manufacturer to a variety of administrative sanctions, such as FDA refusal to approve pending premarket applications, issuance of warning letters, mandatory product recalls, import detentions, civil monetary penalties, and/or judicial sanctions, such as product seizures, injunctions, and criminal prosecution. Unless an exemption applies, medical devices require marketing clearance or approval from the FDA prior to commercial distribution. The two primary types of FDA marketing authorization applicable to a medical device are premarket notification, also called 510(k) clearance, and premarket approval, or PMA approval; however, other devices may be commercialized after the FDA grants a *de novo* request.

The 510(k) Process

Under the FDCA, medical devices are classified into one of three classes—Class I, Class II or Class III—depending on the degree of risk associated with each medical device and the extent of control needed to provide reasonable assurances with respect to safety and effectiveness.

Class I devices are those for which safety and effectiveness can be reasonably assured by adherence to a set of regulations, referred to as General Controls, which require compliance with the applicable portions of the FDA’s

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Quality System Regulation, or QSR, which sets forth cGMP requirements for medical devices, facility registration and product listing, reporting of AEs and malfunctions, and appropriate, truthful and non-misleading labeling and promotional materials. Most Class I products are exempt from the premarket notification requirements.

Class II devices are those that are subject to the General Controls, as well as Special Controls, which can include performance standards, guidelines and post market surveillance. Most Class II devices are subject to premarket review and clearance by the FDA. Premarket review and clearance by the FDA for Class II devices is accomplished through the 510(k) premarket notification process. Under the 510(k) process, the manufacturer must submit to the FDA a premarket notification, demonstrating that the device is “substantially equivalent,” as defined in the statute, to either:

- a device that was legally marketed prior to May 28, 1976, the date upon which the Medical Device Amendments of 1976 were enacted, or
- another commercially available, similar device that was cleared through the 510(k) process.

To be “substantially equivalent,” the proposed device must have the same intended use as the predicate device, and either have the same technological characteristics as the predicate device or have different technological characteristics and not raise different questions of safety or effectiveness than the predicate device. Clinical data are sometimes required to support substantial equivalence.

After a 510(k) notice is submitted, the FDA determines whether to accept it for substantive review. If it lacks necessary information for substantive review, the FDA will refuse to accept the 510(k) notification. If it is accepted for filing, the FDA begins a substantive review. If the FDA agrees that the device is substantially equivalent, it will grant clearance to commercially market the device.

The De Novo and PMA Processes

If the FDA determines that the device is not “substantially equivalent” to a predicate device, or if the device is classified into Class III by operation of law, the device sponsor must then fulfill the much more rigorous premarketing requirements of the PMA process, or seek classification of the device through the *de novo* process by submitting a *de novo* request. A manufacturer can also submit a direct *de novo* request if the manufacturer is unable to identify an appropriate predicate device and the new device or new use of the device presents a moderate or low risk.

In response to a *de novo* request, FDA may classify the device into class I or II. Under the FDCA, FDA must make a classification determination for the device that is the subject of the *de novo* request by written order within 120 days of the request. However, in accordance with the performance goals and procedures agreed to by FDA for the medical device user fee program in the Medical Device User Fee Amendments of 2017, or MDUFA IV, FDA has committed to issuing a MDUFA decision within 150 FDA days of receipt of the submission for 60 percent of *de novo* requests received in fiscal year 2020. During the pendency of FDA’s review, FDA may issue an additional information letter, which places the *de novo* request on hold and stops the review clock pending receipt of the additional information requested. In the event the *de novo* requestor does not provide the requested information within 180 calendar days, FDA will consider the *de novo* request to be withdrawn.

If FDA determines that General Controls or General Controls and Special Controls are insufficient to provide reasonable assurance of safety and effectiveness or the information and/or the data provided in the *de novo* request are insufficient to determine whether General Controls or General Controls and Special Controls can provide a reasonable assurance of safety and effectiveness, FDA will decline the *de novo* request. If a *de novo* request is declined, FDA issues a written order to the *de novo* requestor identifying the reasons for declining the *de novo* request and the device remains in class III and may not be marketed. The *de novo* requestor may submit a PMA or collect additional information to address the issues identified by FDA and submit a new *de novo*

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request that includes the additional information. Alternatively, in the event FDA determines the data and information submitted demonstrate that General Controls or General and Special Controls are adequate to provide reasonable assurance of safety and effectiveness, FDA will grant the *de novo* request. When FDA grants a *de novo* request, the device is granted marketing authorization and further can serve as a predicate for future devices of that type, including for 510(k)s. In December 2018, the FDA issued proposed regulations to govern the *de novo* classification process, which include requirements beyond what has historically been required in *de novo* submissions. If finalized, these regulations could further impact this path to market.

Class III devices include devices deemed by the FDA to pose the greatest risk such as life-supporting or life-sustaining devices, or implantable devices, in addition to those deemed not substantially equivalent following the 510(k) process. The safety and effectiveness of Class III devices cannot be reasonably assured solely by the General Controls and Special Controls described above. Therefore, these devices are subject to the PMA application process, which is generally more costly and time consuming than the 510(k) process. Through the PMA application process, the applicant must submit data and information demonstrating reasonable assurance of the safety and effectiveness of the device for its intended use to the FDA's satisfaction. Accordingly, a PMA application typically includes, but is not limited to, extensive technical information regarding device design and development, preclinical and clinical study data, manufacturing information, labeling and financial disclosure information for the clinical investigators in device studies. The PMA application must provide valid scientific evidence that demonstrates to the FDA's satisfaction reasonable assurance of the safety and effectiveness of the device for its intended use. Overall, the FDA review of a PMA application generally takes between one and three years, but may take significantly longer.

Exempt Devices

If a manufacturer's device falls into a generic category of Class I or Class II devices that FDA has exempted by regulation, a premarket notification is not required before marketing the device in the United States. Manufacturers of such devices are required to register their establishments and list the generic category or classification name of their devices. Some 510(k)-exempt devices are also exempt from QSR requirements, except for the QSR's complaint handling and recordkeeping requirements.

Pre-Submission Meetings

The FDA has mechanisms to provide companies with guidance prior to formal submission of either a 510(k), *de novo* request or PMA. One such mechanism is the pre-submission program in which a company has a "pre-submission" meeting as outlined in the FDA guidance document "Requests for Feedback and Meetings for Medical Device Submissions: The Q-Submission Program" that was issued in May 2019. The main purpose of the pre-submission meeting is to provide companies with guidance from the FDA on matters of significance to product development and/or submission preparation. Prior to the pre-submission meeting, the company provides a briefing document to the FDA. The FDA is not obligated to follow the recommendations it provides to companies as a result of a pre-submission meeting.

Clinical Trials

A clinical trial is almost always required to support a PMA application or *de novo* request and is sometimes required for a premarket notification. For significant risk devices, the FDA regulations require that human clinical investigations conducted in the United States be approved via an investigational device exemption, or IDE, which must become effective before clinical testing may commence. A significant risk device is one that presents a potential for serious risk to the health, safety or welfare of a subject and either is implanted, used in supporting or sustaining human life, substantially important in diagnosing, curing, mitigating or treating disease or otherwise preventing impairment of human health, or otherwise presents a potential for serious risk to a subject. A nonsignificant risk device does not require FDA approval of an IDE; however, the clinical trial must still be conducted in compliance with abbreviated IDE regulations, such as those relating to trial monitoring,

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informed consent, and labeling and record-keeping. In some cases, one or more smaller studies may precede a pivotal clinical trial intended to demonstrate the safety and effectiveness of the investigational device. A 30-day waiting period after the submission of each IDE is required prior to the commencement of clinical testing in humans. If the FDA determines that there are deficiencies or other concerns with an IDE that require modification, the FDA may permit a clinical trial to proceed under a conditional approval. If the FDA disapproves the IDE within this 30-day period, the clinical trial proposed in the IDE may not begin.

An IDE application must be supported by appropriate data, such as animal and laboratory test results, showing that it is safe to test the device in humans and that the testing protocol is scientifically sound. The IDE application must also include a description of product manufacturing and controls, and a proposed clinical trial protocol. FDA typically grants IDE approval for a specified number of patients to be treated at specified study centers. During the study, the sponsor must comply with the FDA's IDE requirements for investigator selection, trial monitoring, reporting, and record keeping. The investigators must obtain patient informed consent, rigorously follow the investigational plan and study protocol, control the disposition of investigational devices, and comply with all reporting and record keeping requirements. Certain IDE requirements apply to all investigational devices, whether such devices are considered significant or nonsignificant risks. Prior to granting PMA approval, the FDA typically inspects the records relating to the conduct of the study and the clinical data supporting the PMA application for compliance with IDE requirements.

Clinical trials must be conducted: (i) in compliance with federal regulations, including those related to good clinical practices, or GCPs, which are intended to protect the rights and health of patients and to define the roles of clinical trial sponsors, investigators, and monitors; and (ii) under protocols detailing the objectives of the trial, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated. Clinical trials are typically conducted at geographically diverse clinical trial sites, and are designed to permit FDA to evaluate the overall benefit-risk relationship of the device and to provide adequate information for the labeling of the device. Clinical trials for both significant and nonsignificant risk devices, must be approved by an IRB for each trial site.

The FDA may order the temporary, or permanent, discontinuation of a clinical trial at any time, or impose other sanctions, if it believes that the clinical trial either is not being conducted in accordance with FDA requirements or presents an unacceptable risk to the clinical trial subjects. An IRB may also require the clinical trial at the site to be halted, either temporarily or permanently, for failure to comply with the IRB's requirements, or may impose other conditions.

Although the QSR does not fully apply to investigational devices, the requirement for controls on design and development does apply. The sponsor also must manufacture the investigational device in conformity with the quality controls described in the IDE application and any conditions of IDE approval that FDA may impose with respect to manufacturing. Investigational devices may only be distributed for use in an investigation, and must bear a label with the statement: "CAUTION—Investigational device. Limited by Federal law to investigational use."

Information about certain clinical trials must be submitted within specific timeframes to the NIH for public dissemination on its ClinicalTrials.gov website.

Post-Marketing Requirements

After a device is placed on the market, numerous regulatory requirements apply. These include:

- annual and updated establishment registration and device listing with the FDA;
- the QSR requirements, which require manufacturers to follow stringent design, testing, control, documentation, complaint handling and other quality assurance procedures during all aspects of the design and manufacturing process;
- advertising and promotion requirements;

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- restrictions on sale, distribution or use of a device;
- labeling and marketing regulations, which require that promotion is truthful, not misleading, and provide adequate directions for use and that all claims are substantiated, and also prohibit the promotion of products for unapproved or “off-label” uses and impose other restrictions on labeling;
- medical device reporting regulations, which require that a manufacturer report to the FDA if a device it markets may have caused or contributed to a death or serious injury, or has malfunctioned and the device or a similar device that it markets would be likely to cause or contribute to a death or serious injury, if the malfunction were to recur;
- correction, removal and recall reporting regulations, which require that manufacturers report to the FDA field corrections and product recalls or removals if undertaken to reduce a risk to health posed by the device or to remedy a violation of the FDCA that may present a risk to health; and
- complying with the federal law and regulations requiring Unique Device Identifiers on devices and also requiring the submission of certain information about each device to the FDA’s Global Unique Device Identification Database.

FDA enforces these requirements by inspection and market surveillance. If the FDA finds a violation, it can institute a wide variety of enforcement actions, ranging from a public warning letter to more severe sanctions such as:

- warning letters, untitled letters, fines, injunctions, consent decrees, and civil penalties;
- recall, withdrawals, or administrative detention or seizure of products;
- operating restrictions, partial suspension or total shutdown of production;
- refusing or delisting requests for 510(k) clearance or PMA approval of new products or modified products;
- withdrawing PMA approvals or 510(k) clearances already granted;
- refusal to grant export or import approvals for marketing products; and
- criminal prosecution.

Discovery of previously unknown problems with a product or the failure to comply with applicable FDA requirements can have negative consequences, including adverse publicity, judicial or administrative enforcement, warning letters from the FDA, mandated corrective advertising or communications with doctors, and civil or criminal penalties, among others. Newly discovered or developed safety or effectiveness data may require changes to a product’s approved labeling, including the addition of new warnings and contraindications, and also may require the implementation of other risk management measures. Also, new government requirements, including those resulting from new legislation, may be established, or the FDA’s policies may change, which could delay or prevent regulatory approval of products under development.

Device Modifications

Some changes to an approved PMA device, including changes in indications, labeling, or manufacturing processes or facilities, require submission and FDA approval of a new PMA or PMA supplement, as appropriate, before the change can be implemented. Supplements to a PMA often require the submission of the same type of information required for an original PMA, except that the supplement is generally limited to that information needed to support the proposed change from the product covered by the original PMA. The FDA uses the same procedures and actions in reviewing PMA supplements as it does in reviewing original PMAs.

Modifications to a device that received 510(k) clearance may require a new 510(k) submission if those changes could significantly affect the safety or effectiveness of the device, or if the modifications represent a major

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change in intended use. If the manufacturer determines that a modification could not substantially affect the safety or effectiveness of the device, it should document the changes and rationale for not submitting a new 510(k). Though the manufacturer is responsible for the initial assessment, FDA may disagree, and later require the manufacturer to submit a 510(k) for the modified device. FDA could require the manufacturer to cease marketing the modified device while the 510(k) notification is awaiting clearance.

European Union Drug Development

In the European Union, our future products and product candidates also may be subject to extensive regulatory requirements. As in the United States, medicinal products can be marketed only if a marketing authorization from the competent regulatory agencies has been obtained.

Similar to the United States, the various phases of preclinical and clinical research in the European Union are subject to significant regulatory controls. Although the EU Clinical Trials Directive 2001/20/EC has sought to harmonize the EU clinical trials regulatory framework, setting out common rules for the control and authorization of clinical trials in the European Union, the EU Member States have transposed and applied the provisions of the Directive differently. This has led to significant variations in the Member State regimes. Under the current regime, before a clinical trial can be initiated it must be approved in each of the EU countries where the trial is to be conducted by two distinct bodies: the National Competent Authority, or NCA, and one or more Ethics Committees, or ECs. Under the current regime all suspected unexpected serious adverse reactions to the investigated drug that occur during the clinical trial have to be reported to the NCA and ECs of the Member State where they occurred.

In April 2014, the EU passed the new Clinical Trials Regulation, (EU) No 536/2014, which will replace the current Clinical Trials Directive 2001/20/EC. To ensure that the rules for clinical trials are harmonized throughout the European Union, the new EU clinical trials legislation was passed as a regulation that is directly applicable in all EU member states. All clinical trials performed in the European Union are required to be conducted in accordance with the Clinical Trials Directive 2001/20/EC until the new Clinical Trials Regulation (EU) No 536/2014 becomes applicable. It is expected that the new Clinical Trials Regulation (EU) No 536/2014 will apply following confirmation of full functionality of the Clinical Trials Information System, or CTIS, the centralized European Union portal and database for clinical trials foreseen by the regulation, through an independent audit. The regulation becomes applicable six months after the European Commission publishes notice of this confirmation with a three-year transition period. It will overhaul the current system of approvals for clinical trials in the European Union. Specifically, the new regulation, which will be directly applicable in all member states, aims at simplifying and streamlining the approval of clinical trials in the European Union. For instance, the new Clinical Trials Regulation provides for a streamlined application procedure via a single point and strictly defined deadlines for the assessment of clinical trial applications.

European Union Drug Marketing

Much like the Anti-Kickback Statute prohibition in the United States, the provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is also prohibited in the European Union and in the UK. The provision of benefits or advantages to physicians is governed by national anti-bribery laws, such as the UK Bribery Act 2010. Infringement of these laws could result in substantial fines and imprisonment.

Payments made to physicians in certain European Union Member States and in the UK must be publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization and/or the regulatory authorities of the individual EU Member States. These requirements are provided in the national laws, industry codes or professional codes of conduct, applicable in the EU Member States and in the UK. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

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European Union Drug Review and Approval

In the European Economic Area, or EEA, which is comprised of the 27 Member States of the European Union (together with Norway), Iceland and Liechtenstein, medicinal products can only be commercialized after obtaining a Marketing Authorization, or MA. There are two types of marketing authorizations.

- The Community MA is issued by the European Commission through the Centralized Procedure, based on the opinion of the Committee for Medicinal Products for Human Use, or CHMP, of the EMA, and is valid throughout the entire territory of the EEA. The Centralized Procedure is mandatory for certain types of products, such as biotechnology medicinal products, orphan medicinal products, advanced-therapy medicines such as gene-therapy, somatic cell-therapy or tissue-engineered medicines and medicinal products containing a new active substance indicated for the treatment of HIV, AIDS, cancer, neurodegenerative disorders, diabetes, autoimmune and other immune dysfunctions and viral diseases. The Centralized Procedure is optional for products containing a new active substance not yet authorized in the EEA, or for products that constitute a significant therapeutic, scientific or technical innovation or which are in the interest of public health in the European Union.
- National MAs, which are issued by the competent authorities of the Member States of the EEA and only cover their respective territory, are available for products not falling within the mandatory scope of the Centralized Procedure. Where a product has already been authorized for marketing in a Member State of the EEA, this National MA can be recognized in another Member States through the Mutual Recognition Procedure. If the product has not received a National MA in any Member State at the time of application, it can be approved simultaneously in various Member States through the Decentralized Procedure. Under the Decentralized Procedure an identical dossier is submitted to the competent authorities of each of the Member States in which the MA is sought, one of which is selected by the applicant as the Reference Member State, or RMS. The competent authority of the RMS prepares a draft assessment report, a draft summary of the product characteristics, or SPC, and a draft of the labeling and package leaflet, which are sent to the other Member States (referred to as the Member States Concerned) for their approval. If the Member States Concerned raise no objections, based on a potential serious risk to public health, to the assessment, SPC, labeling, or packaging proposed by the RMS, the product is subsequently granted a national MA in all the Member States (i.e., in the RMS and the Member States Concerned).

Under the above described procedures, before granting the MA, the EMA or the competent authorities of the Member States of the EEA make an assessment of the risk-benefit balance of the product on the basis of scientific criteria concerning its quality, safety and efficacy.

European Union New Chemical Entity Exclusivity

In the European Union, new chemical entities, sometimes referred to as new active substances, qualify for eight years of data exclusivity upon marketing authorization and an additional two years of market exclusivity. The data exclusivity, if granted, prevents regulatory authorities in the European Union from referencing the innovator's data to assess a generic application for eight years, after which generic marketing authorization can be submitted, and the innovator's data may be referenced, but not approved for two years. The overall ten-year period will be extended to a maximum of 11 years if, during the first eight years of those ten years, the marketing authorization holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are determined to bring a significant clinical benefit in comparison with currently approved therapies.

European Union Orphan Designation and Exclusivity

In the European Union, the EMA's Committee for Orphan Medicinal Products grants orphan drug designation to promote the development of products that are intended for the diagnosis, prevention or treatment of life-

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threatening or chronically debilitating conditions affecting not more than 5 in 10,000 persons in the European Union community (or where it is unlikely that the development of the medicine would generate sufficient return to justify the investment) and for which no satisfactory method of diagnosis, prevention or treatment has been authorized (or, if a method exists, the product would be a significant benefit to those affected).

In the European Union, orphan drug designation entitles a party to financial incentives such as reduction of fees or fee waivers and ten years of market exclusivity is granted following medicinal product approval. This period may be reduced to six years if the orphan drug designation criteria are no longer met, including where it is shown that the product is sufficiently profitable not to justify maintenance of market exclusivity. Additionally, marketing authorization may be granted to a similar product for the same indication at any time, if (i) the holder of the marketing authorization for the original orphan medicinal product consents to a second orphan medicinal product application, (ii) the holder of the marketing authorization for the original orphan medicinal product cannot supply sufficient quantities of the orphan medicinal product, or (iii) the second applicant can establish that the second medicinal product, although similar, is safer, more effective or otherwise clinically superior to the authorized orphan medicinal product. Orphan drug designation must be requested before submitting an application for marketing approval. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

European Pediatric Investigation Plan

In the EEA, MAAs for new medicinal products not authorized have to include the results of studies conducted in the pediatric population, in compliance with a pediatric investigation plan, or PIP, agreed with the EMA's Pediatric Committee, or PDCO. The PIP sets out the timing and measures proposed to generate data to support a pediatric indication of the drug for which marketing authorization is being sought. The PDCO can grant a deferral of the obligation to implement some or all of the measures of the PIP until there are sufficient data to demonstrate the efficacy and safety of the product in adults. Further, the obligation to provide pediatric clinical trial data can be waived by the PDCO when this data is not needed or appropriate because the product is likely to be ineffective or unsafe in children, the disease or condition for which the product is intended occurs only in adult populations, or when the product does not represent a significant therapeutic benefit over existing treatments for pediatric patients. Once the marketing authorization is obtained in all Member States of the European Union and trial results are included in the product information, even when negative, the product is eligible for six months' supplementary protection certificate extension.

European Union Device Development

In the European Union, medical devices are regulated under the European Union Directive (93/42/EEC), also known as the Medical Device Directive, or the MDD. Active Implantable Medical Devices are regulated under Directive 90/385/EEC, and In-Vitro Diagnostic Devices under Directive 98/79/EC (the IVDD). An authorized third party, also called a Notified Body, must approve products for CE marking (except lower risk, or "Class 1", medical devices) and conducts periodic inspections to ensure applicable regulatory requirements are met. The CE mark is contingent upon continued compliance to the applicable regulations and the quality system requirements of the ISO 13485 standard.

The new European Medical Devices Regulation (2017/745), or the EU MDR, and Regulation 2017/746 on In-Vitro Diagnostic Devices, or the EU IVDR, which were published in May 2017 with a transition period until May 26, 2021, replace the MDD and IVDD. Starting May 26, 2021, the new EU MDR will apply and no new applications under the previous directives will be permitted. During the four-year transition period, companies need to update their technical documentation and other quality management system processes to meet the new EU MDR (or, as applicable, IVDR) requirements. Under the new EU MDR requirements, CE certificates issued under the MDD or IVDD prior to May 25, 2017 will remain valid in accordance with their term, beyond the expiration of the transition period; however, certain limitations set forth in the EU MDR (or, as applicable, the EU IVDR), such as the need to use classifications that are different from the previous directives, would apply, as

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well as the requirements of the EU MDR (or, as applicable, EU IVDR) relating to post-market surveillance, vigilance and registration of economic operators and devices will apply in place of the corresponding requirements of the MDD. CE certificates issued under the MDD or IVDD from May 25, 2017 until May 25, 2021 will remain valid in accordance with their term, but shall not exceed five years and shall become void after May 26, 2024. However, devices already placed on the market before May 26, 2024 under the previous directives may continue to be made available until May 26, 2026.

Brexit and the Regulatory Framework in the United Kingdom

On June 23, 2016, the electorate in the United Kingdom voted in favor of leaving the European Union, commonly referred to as “Brexit”. In October 2019, a withdrawal agreement, or the Withdrawal Agreement, setting out the terms of the United Kingdom’s exit from the European Union, and a political declaration on the framework for the future relationship between the United Kingdom and European Union was agreed between the UK and EU governments. Under the terms of the EU Withdrawal Agreement, the United Kingdom withdrew from membership of the European Union on 31 January 2020 and entered into a ‘transition period’ which is due to expire on 31 December 2020. Since the regulatory framework for pharmaceutical products in the United Kingdom covering quality, safety and efficacy of pharmaceutical products, clinical trials, marketing authorization, commercial sales and distribution of pharmaceutical products is derived from European Union directives and regulations, Brexit could materially impact the future regulatory regime which applies to products and the approval of product candidates in the United Kingdom. It remains to be seen how, if at all, Brexit will impact regulatory requirements for product candidates and products in the United Kingdom.

European and United Kingdom Data Collection Regulation

In the event we decide to conduct clinical trials in the European Union and/or the United Kingdom, we may be subject to additional data protection requirements. The collection and use of personal data (which includes health information) in the European Union is governed by the provisions of the General Data Protection Regulation 2016/679, or GDPR, and in the United Kingdom, after the transition period, governed by the Data Protection Act 2018 (however, until the end of the transition period, the GDPR will continue to apply to the UK). The GDPR applies to any company established in the EEA and to companies established outside the EEA that process personal data in connection with the offering of goods or services to data subjects in the EU or the monitoring of the behavior of data subjects in the European Union. The GDPR enhances data protection obligations for controllers of personal data, including requiring controllers to: ensure legal bases they rely on to process personal data are aligned to the legal bases prescribed under the GDPR; individuals are informed as to what personal data is collected from them, how it is used and how they can exercise certain rights in line with the increased disclosures; conduct data protection impact assessments for “high risk” processing; only retain personal data for as long as it is needed in line with the purpose it was obtained; ensure an appropriate level of security in line with the nature and scope of the personal data being processed, and where there has been a personal data breach (i.e. a breach to security which had led to personal data being compromised), notify the relevant supervisory authority and/or individuals affected; embed “privacy by design” practices into new technologies which involve the processing of personal data; enter into data processing terms and carry out appropriate due diligence on any service provider which processes personal data on behalf of the controller (and therefore qualifying as a processor). The GDPR also imposes strict rules on the transfer of personal data outside of the EEA to countries that do not ensure an adequate level of protection, like the U.S. Failure to comply with the requirements of the GDPR and the related national data protection laws of the EEA Member States may result in fines up to 20 million Euros or 4 percent of a company’s global annual revenues for the preceding financial year, whichever is higher. Moreover, the GDPR grants data subjects the right to claim for material and non-material damages resulting from infringement of the GDPR. Given the breadth and depth of these data protection obligations, maintaining compliance with the GDPR will require significant time, resources and expense, and as an ongoing compliance measure we may be required to put in place additional mechanisms which help to ensure our compliance with the data protection rules. This may be onerous and adversely affect our business, financial condition, results of operations and prospects.

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Rest of the World Regulation

For other countries outside of the European Union and the United States, such as countries in Eastern Europe, Latin America or Asia, the requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. Additionally, the clinical trials must be conducted in accordance with GCP requirements and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

If we fail to comply with applicable foreign regulatory requirements, we may be subject to, among other things, fines, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

Additional Laws and Regulations Governing International Operations

If we further expand our operations outside of the United States, we must dedicate additional resources to comply with numerous laws and regulations in each jurisdiction in which we plan to operate. The Foreign Corrupt Practices Act, or FCPA, prohibits any U.S. individual or business from paying, offering, authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with certain accounting provisions requiring the company to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations.

Compliance with the FCPA is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, the FCPA presents particular challenges in the pharmaceutical industry, because, in many countries, hospitals are operated by the government, and doctors and other hospital employees are considered foreign officials. Certain payments to hospitals in connection with clinical trials and other work have been deemed to be improper payments to government officials and have led to FCPA enforcement actions.

Various laws, regulations and executive orders also restrict the use and dissemination outside of the United States, or the sharing with certain non-U.S. nationals, of information classified for national security purposes, as well as certain products and technical data relating to those products. If we expand our presence outside of the United States, it will require us to dedicate additional resources to comply with these laws, and these laws may preclude us from developing, manufacturing, or selling certain products and product candidates outside of the United States, which could limit our growth potential and increase our development costs.

The failure to comply with laws governing international business practices may result in substantial civil and criminal penalties and suspension or debarment from government contracting. The SEC also may suspend or bar issuers from trading securities on U.S. exchanges for violations of the FCPA's accounting provisions.

Healthcare and Privacy Laws and Regulation

Manufacturing, sales, promotion and other activities following product approval are also subject to regulation by numerous regulatory authorities in the United States in addition to the FDA, including the CMS, including the Office of Inspector General and Office for Civil Rights, other divisions of the Department of HHS, the Department of Justice, the Drug Enforcement Administration, the Consumer Product Safety Commission, the Federal Trade Commission, the Occupational Safety & Health Administration, the Environmental Protection Agency and state and local governments.

Healthcare providers and third-party payors play a primary role in the recommendation and prescription of drug products and other medical items and services. Arrangements with providers, consultants, third-party payors and

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customers are subject to broadly applicable fraud and abuse, anti-kickback, false claims laws, reporting of payments to physicians and teaching hospitals and patient privacy laws and regulations and other healthcare laws and regulations that may constrain our business and/or financial arrangements.

Restrictions under applicable federal and state healthcare and privacy laws and regulations, include the following:

- the federal Anti-Kickback Statute, which makes it illegal for any person, including a prescription drug manufacturer (or a party acting on its behalf), to knowingly and willfully solicit, receive, offer or pay any remuneration (including any kickback, bribe or certain rebate), directly or indirectly, overtly or covertly, in cash or in kind, or in return for, that is intended to induce or reward referrals, including the purchase, recommendation, order or prescription of a particular drug, for which payment may be made under a federal healthcare program, such as Medicare or Medicaid. A person or entity need not have actual knowledge of the federal Anti-Kickback Statute or specific intent to violate it in order to have committed a violation. Violations are subject to civil and criminal fines and penalties for each violation, plus up to three times the remuneration involved, imprisonment, and exclusion from government healthcare programs. In addition, the government may assert that a claim that includes items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act;
- the federal civil and criminal false claims laws, including the civil False Claims Act, or FCA, which prohibit individuals or entities from, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment or approval that are false, fictitious or fraudulent; knowingly making, using or causing to be made or used, a false statement or record material to a false or fraudulent claim or obligation to pay or transmit money or property to the federal government; or knowingly concealing or knowingly and improperly avoiding or decreasing an obligation to pay money to the federal government. Manufacturers can be held liable under the FCA even when they do not submit claims directly to government payors if they are deemed to “cause” the submission of false or fraudulent claims. The FCA also permits a private individual acting as a “whistleblower” to bring actions on behalf of the federal government alleging violations of the FCA and to share in any monetary recovery. When an entity is determined to have violated the federal civil False Claims Act, the government may impose civil fines and penalties for each false claim, plus treble damages, and exclude the entity from participation in Medicare, Medicaid and other federal healthcare programs;
- the federal civil monetary penalties laws, which impose civil fines for, among other things, the offering or transfer or remuneration to a Medicare or state healthcare program beneficiary if the person knows or should know it is likely to influence the beneficiary’s selection of a particular provider, practitioner, or supplier of services reimbursable by Medicare or a state health care program, unless an exception applies;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes civil and criminal liability for, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services; similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH and their respective implementing regulations, including the Final Omnibus Rule published in January 2013, which impose requirements on certain covered healthcare providers, health plans, and healthcare clearinghouses as well as their respective business associates that perform services for them that involve the use, or disclosure of, individually identifiable health information, relating to the privacy, security and transmission of individually identifiable health information. HITECH also created new tiers of civil monetary penalties, amended HIPAA to make civil and

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criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys' fees and costs associated with pursuing federal civil actions;

- the federal transparency requirements known as the federal Physician Payments Sunshine Act, under the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively the Affordable Care Act, which requires certain manufacturers of drugs, devices, biologics and medical supplies to report annually to the Centers for Medicare & Medicaid Services, or CMS, within the United States Department of Health and Human Services, or HHS, information related to payments and other transfers of value made by that entity to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as ownership and investment interests held by the physicians described above and their immediate family members. Effective January 1, 2022, these reporting obligations will extend to include transfers of value made to certain non-physician providers such as physician assistants and nurse practitioners. In addition, many states also require the reporting of payments or other transfers of value. In addition, many states also require reporting of payments or other transfers of value, many of which differ from each other in significant ways, are often not pre-empted, and may have a more prohibitive effect than the Sunshine Act, thus further complicating compliance efforts;
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;
- federal price reporting laws, which require manufacturers to calculate and report complex pricing metrics to government programs, where such reported prices may be used in the calculation of reimbursement and/or discounts on approved products;
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to healthcare items or services that are reimbursed by non-governmental third-party payors, including private insurers;
- many state laws govern the privacy of personal information in specified circumstances, for example, in California the California Consumer Protection Act, or CCPA, which went into effect on January 1, 2020, establishes a new privacy framework for covered businesses by creating an expanded definition of personal information, establishing new data privacy rights for consumers in the State of California, imposing special rules on the collection of consumer data from minors, and creating a new and potentially severe statutory damages framework for violations of the CCPA and for businesses that fail to implement reasonable security procedures and practices to prevent data breaches. While clinical trial data and information governed by HIPAA are currently exempt from the current version of the CCPA, other personal information may be applicable and possible changes to the CCPA may broaden its scope; and
- some state laws require pharmaceutical companies to comply with the industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring manufacturers to report information related to payments to physicians and other healthcare providers, marketing expenditures, and pricing information. Certain state and local laws require the registration of pharmaceutical sales and medical representatives. State and foreign laws, including for example the European Union General Data Protection Regulation, also govern the privacy and security of personal data, including health information, in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Insurance Coverage

In the United States and markets in other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Thus, even if a product candidate is approved, sales of the product will depend, in

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part, on the extent to which third-party payors, including government health programs in the United States such as Medicare and Medicaid, commercial health insurers and managed care organizations, provide coverage, and establish adequate reimbursement levels for, the product. In the United States, the principal decisions about reimbursement for new medicines are typically made by the Centers for Medicare & Medicaid Services, or CMS, an agency within the U.S. Department of Health and Human Services. CMS decides whether and to what extent a new medicine will be covered and reimbursed under Medicare and private payors tend to follow CMS to a substantial degree. No uniform policy of coverage and reimbursement for drug and other medical products exists among third-party payors. Therefore, coverage and reimbursement for drug and other medical products can differ significantly from payor to payor. The process for determining whether a third-party payor will provide coverage for a product may be separate from the process for setting the price or reimbursement rate that the payor will pay for the product once coverage is approved. Third-party payors are increasingly challenging the prices charged, examining the medical necessity, and reviewing the cost-effectiveness of medical products and services and imposing controls to manage costs. Third-party payors may limit coverage to specific products on an approved list, also known as a formulary, which might not include all of the approved products for a particular indication.

In order to secure coverage and reimbursement for any product that might be approved for sale, a company may need to conduct expensive pharmacoeconomic or other studies in order to demonstrate the medical necessity and cost-effectiveness of the product, in addition to the costs required to obtain FDA or other comparable regulatory approvals. Additionally, companies may also need to provide discounts to purchasers, private health plans or government healthcare programs. Nonetheless, product candidates may not be considered medically necessary or cost effective. A decision by a third-party payor not to cover a product could reduce physician utilization once the product is approved and have a material adverse effect on sales, our operations and financial condition. Additionally, a third-party payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Further, one payor's determination to provide coverage for a product does not assure that other payors will also provide coverage and reimbursement for the product, and the level of coverage and reimbursement can differ significantly from payor to payor.

The containment of healthcare costs has become a priority of federal, state and foreign governments, and the prices of products have been a focus in this effort. Governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit a company's revenue generated from the sale of any approved products. Coverage policies and third-party payor reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which a company or its collaborators receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Current and Future Legislation

In the United States and some foreign jurisdictions, there have been, and likely will continue to be, a number of legislative and regulatory changes and proposed changes regarding the healthcare system directed at broadening the availability of healthcare, improving the quality of healthcare, and containing or lowering the cost of healthcare. For example, in March 2010, the United States Congress enacted the Affordable Care Act, which, among other things, includes changes to the coverage and payment for products under government health care programs. The Affordable Care Act includes provisions of importance to our potential product candidates that:

- created an annual, nondeductible fee on any entity that manufactures or imports specified branded prescription drugs and biologic products, apportioned among these entities according to their market share in certain government healthcare programs;
- expanded eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to certain individuals with income at or below 133 percent of the federal poverty level, thereby potentially increasing a manufacturer's Medicaid rebate liability;

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- expanded manufacturers' rebate liability under the Medicaid Drug Rebate Program by increasing the minimum rebate for both branded and generic drugs and revising the definition of "average manufacturer price," or AMP, for calculating and reporting Medicaid drug rebates on outpatient prescription drug prices;
- addressed a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected;
- expanded the types of entities eligible for the 340B drug discount program;
- established the Medicare Part D coverage gap discount program by requiring manufacturers to provide a 50 percent point-of-sale-discount (increased to 70% as of January 1, 2019 pursuant to subsequent legislation) off the negotiated price of applicable brand drugs to eligible beneficiaries during their coverage gap period as a condition for the manufacturers' outpatient drugs to be covered under Medicare Part D; and
- created a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research.

Since its enactment, there have been numerous judicial, administrative, executive, and legislative challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. For example, since January 2017, President Trump has signed various Executive Orders and other directives designed to delay the implementation of or otherwise circumvent certain provisions of the Affordable Care Act. While Congress has not passed comprehensive repeal legislation, it has enacted laws that modify certain provisions of the Affordable Care Act such as removing penalties, starting January 1, 2019, for not complying with the Affordable Care Act's individual mandate to carry health insurance, delaying the implementation of certain Affordable Care Act-mandated fees, and increasing the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D. On December 14, 2018, a Texas U.S. District Court Judge ruled that the Affordable Care Act is unconstitutional in its entirety because the "individual mandate" was repealed by Congress as part of the Tax Cuts and Jobs Act of 2017. On December 18, 2019, the U.S. Court of Appeals for the 5th Circuit ruled that the individual mandate was unconstitutional but remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. On March 2, 2020, the U.S. Supreme Court granted the petitions for writs of certiorari to review the case, although it is unclear when a decision will be made or how the Supreme Court will rule. The Trump administration and CMS, have stated that the ruling will have no immediate effect pending appeal of the decision. Litigation and legislation related to the ACA are likely to continue, with unpredictable and uncertain results. We will continue to evaluate the effect that the ACA and its possible repeal and replacement has on our business.

Other legislative changes have been proposed and adopted in the United States since the Affordable Care Act was enacted. In August 2011, the Budget Control Act of 2011, among other things, included aggregate reductions of Medicare payments to providers of 2 percent per fiscal year, which went into effect in April 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2027 unless additional Congressional action is taken. However, pursuant to the Coronavirus Aid, Relief and Economic Security Act, or CARES Act, these Medicare sequester reductions will be suspended from May 1, 2020 through December 31, 2020 due to the COVID-19 pandemic. In January 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Moreover, payment methodologies may be subject to changes in healthcare legislation and regulatory initiatives. For example, CMS may develop new payment and delivery models, such as bundled payment models. In addition, recently there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their commercial products, which has resulted in several Congressional inquiries and proposed and enacted state and federal legislation designed to, among other things, bring more transparency to product pricing.

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review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for pharmaceutical products. At the federal level, the Trump administration's budget for fiscal year 2021 includes a \$135 billion allowance to support legislative proposals seeking to reduce drug prices, increase competition, lower out-of-pocket drug costs for patients, and increase patient access to lower-cost generic and biosimilar drugs. On March 10, 2020, the Trump administration sent "principles" for drug pricing to Congress, calling for legislation that would, among other things, cap Medicare Part D beneficiary out-of-pocket pharmacy expenses, provide an option to cap Medicare Part D beneficiary monthly out-of-pocket expenses, and place limits on pharmaceutical price increases. Additionally, on July 24, 2020, President Trump signed four Executive Orders aimed at lowering drug prices. The Executive Orders direct the Secretary of the Department of Health and Human Services to: (1) eliminate protection under an Anti-Kickback Statute safe harbor for certain retrospective price reductions provided by drug manufacturers to sponsors of Medicare Part D plans or pharmacy benefit managers that are not applied at the point-of-sale; (2) allow the importation of certain drugs from other countries through individual waivers, permit the re-importation of insulin products, and prioritize finalization of FDA's December 2019 proposed rule to permit the importation of drugs from Canada; (3) ensure that payment by the Medicare program for certain Medicare Part B drugs is not higher than the payment by other comparable countries (depending on whether pharmaceutical manufacturers agree to other measures); and (4) allow certain low-income individuals receiving insulin and epinephrine purchased by a Federally Qualified Health Center, or FQHC, as part of the 340B drug program to purchase those drugs at the discounted price paid by the FQHC. On September 13, 2020, President Trump signed an Executive Order directing HHS to implement a rulemaking plan to test a payment model, pursuant to which Medicare would pay, for certain high-cost prescription drugs and biological products covered by Medicare Part B, no more than the most-favored-nation price (i.e., the lowest price) after adjustments, for a pharmaceutical product that the drug manufacturer sells in a member country of the Organization for Economic Cooperation and Development that has a comparable per-capita gross domestic product. Although a number of these, and other proposed measures will require authorization through additional legislation to become effective, Congress and the current administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs.

While some proposed measures may require additional authorization to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. Individual states in the United States have also become increasingly active in passing legislation and implementing regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. Furthermore, there has been increased interest by third party payors and governmental authorities in reference pricing systems and publication of discounts and list prices.

On May 30, 2018, the Right to Try Act was signed into law. The law, among other things, provides a federal framework for certain patients to access certain investigational new drug products that have completed a Phase 1 clinical trial and that are undergoing investigation for FDA approval. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA permission under the FDA expanded access program. There is no obligation for a drug manufacturer to make its drug products available to eligible patients as a result of the Right to Try Act, but the manufacturer must develop an internal policy and respond to patient requests according to that policy. Drug manufacturers who provide their investigational product under the Right to Try Act are required to submit to FDA an annual summary of the use of their drug.

Outside the United States, ensuring coverage and adequate payment for a product also involves challenges. Pricing of prescription pharmaceuticals is subject to government control in many countries. Pricing negotiations

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with government authorities can extend well beyond the receipt of regulatory approval for a product and may require a clinical trial that compares the cost-effectiveness of a product to other available therapies. The conduct of such a clinical trial could be expensive and result in delays in commercialization.

In the European Union, pricing and reimbursement schemes vary widely from country to country. Some countries provide that products may be marketed only after a reimbursement price has been agreed. Some countries may require the completion of additional studies that compare the cost-effectiveness of a particular product candidate to currently available therapies or so-called health technology assessments, in order to obtain reimbursement or pricing approval. For example, the European Union provides options for its member states to restrict the range of products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. European Union member states may approve a specific price for a product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the product on the market. Other member states allow companies to fix their own prices for products, but monitor and control prescription volumes and issue guidance to physicians to limit prescriptions. Recently, many countries in the European Union have increased the amount of discounts required on pharmaceuticals and these efforts could continue as countries attempt to manage healthcare expenditures, especially in light of the severe fiscal and debt crises experienced by many countries in the European Union. The downward pressure on healthcare costs in general, particularly prescription products, has become intense. As a result, increasingly high barriers are being erected to the entry of new products. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. Reference pricing used by various European Union member states, and parallel trade, i.e., arbitrage between low-priced and high-priced member states, can further reduce prices. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any products, if approved in those countries.

Facilities

We lease approximately 50,858 square feet of office and laboratory space in Boston, Massachusetts of which we sublease approximately 11,852 square feet to a third party. This facility serves as our corporate headquarters. Certain of our Founded Entities sublease space from us and reimburse us at market rates. We also lease approximately 4,170 square feet of laboratory space in Boston, Massachusetts. We believe that our existing facilities are adequate to meet our current needs for the foreseeable future, and that suitable additional alternative spaces will be available in the future on commercially reasonable terms if needed.

Legal Proceedings

As of the date of this registration statement, we were not party to any material legal matters or claims. In the future, we may become party to legal matters and claims arising in the ordinary course of business, the resolution of which we do not anticipate would have a material adverse impact on our financial position, results of operations or cash flows.

C. ORGANIZATIONAL STRUCTURE

As of June 30, 2020, we had one significant subsidiary. The following table sets out for each of our principal subsidiaries, the country of incorporation, percentage ownership and voting interest held by us (directly or indirectly through subsidiaries):

<u>Company</u>	<u>Country of incorporation</u>	<u>Percentage ownership and voting interest</u>	<u>Main activity</u>
PureTech Health LLC	United States	100.0%	Biotechnology

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D. PROPERTY, PLANTS AND EQUIPMENT

We lease approximately 50,858 square feet of office and laboratory space in Boston, Massachusetts of which we sublease approximately 11,852 square feet to a third party. This facility serves as our corporate headquarters. Certain of our Founded Entities sublease space from us and reimburse us at market rates. We also lease approximately 4,170 square feet of laboratory space in Boston, Massachusetts. We believe that our existing facilities are adequate to meet our current needs for the foreseeable future, and that suitable additional alternative spaces will be available in the future on commercially reasonable terms if needed.

ITEM 4A. UNRESOLVED STAFF COMMENTS

Not applicable.

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ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

You should read the following discussion and analysis together with “Selected Consolidated Financial Data” and our consolidated financial statements, including the notes thereto, included elsewhere in this registration statement. Some of the information contained in this discussion and analysis or set forth elsewhere in this registration statement, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the “Risk Factors” section of this registration statement, our actual results could differ materially from the results described in or implied by these forward-looking statements.

Our audited consolidated financial statements as of and for the years ended December 31, 2019, 2018 and 2017 have been prepared in accordance with the International Financial Reporting Standards, International Accounting Standards, and Interpretations (collectively “IFRS”) as issued by the International Accounting Standards Board (“IASB”) as adopted by the European Union (adopted IFRSs).

The following discussion contains references to the consolidated financial statements of PureTech Health plc and its consolidated subsidiaries, or the Company. These financial statements consolidate the Company’s subsidiaries and include the Company’s interest in associates and investments held at fair value. Subsidiaries are those entities over which the Company maintains control. Associates are those entities in which the Company does not have control for financial accounting purposes but maintains significant influence over the financial and operating policies. Where we have neither control nor significant influence for financial accounting purposes, we recognize our holding in such entity as an investment at fair value. For purposes of our consolidated financial statements, each of our Founded Entities are considered to be either a “subsidiary” or an “associate” depending on whether PureTech Health plc controls or maintains significant influence over the financial and operating policies of the respective entity at the respective period end date. For additional information regarding the accounting treatment of these entities, see Note 1 of our consolidated financial statements included in this registration statement. For additional information regarding our operating structure, see “—Basis of Presentation and Consolidation” below.

A. OPERATING RESULTS

Overview

We are a clinical-stage biotechnology company dedicated to discovering, developing and commercializing highly differentiated medicines for devastating diseases, including inflammatory and immunological conditions, intractable cancers, lymphatic and gastrointestinal diseases, and neurological and neuropsychological disorders, among others. The product candidates within our Wholly Owned Programs and the products and product candidates being developed by our Founded Entities were initiated by our experienced research and development team and our extensive network of scientists, clinicians and industry leaders. These product candidates are protected by a growing intellectual property portfolio of more than 600 patents and patent applications, of which more than 200 are issued.

Since our inception, we have devoted substantially all of our resources to conducting research and development of our Wholly Owned product candidates and those being developed by our Founded Entities, in-licensing and acquiring rights to our Wholly Owned and our Founded Entities’ product candidates, building our intellectual property portfolio and providing general and administrative support for our operations. To date, we have raised a total of \$439.3 million from external funding sources such as major investment funds and other leading investors. We raised \$196.0 million when we completed our initial public offering, or IPO, on the London Stock Exchange in June 2015, plus an additional \$101.2 million as a follow-on offering that we completed in April 2018. Prior to our IPO, we raised a total of \$142.1 million in consecutive private financing rounds. In the period from January 2017 through June 2020, our Founded Entities strengthened their collective balance sheets by attracting \$1,084.2 million in investments and non-dilutive funding, including \$997.6 million from third parties. The balance of the funding is between PureTech Health plc and its Founded Entities. For a description of our structure and relationships with our Founded Entities, see “PureTech Health plc Structure” included elsewhere in this registration statement. As of June 30, 2020, we had cash, cash equivalents and short-term investments of

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\$340.1 million, which included aggregate proceeds of \$12.3 million and \$245.9 million from our sales of resTORbio and Karuna shares, respectively.

Our Founded Entities, Gelesis, Inc., or Gelesis, and Akili Interactive Labs, Inc., or Akili in which we lost control in 2019 and 2018, respectively, have products cleared for sale, but we and our Controlled Founded Entities have not generated any revenue from product sales. Our ability to generate product revenue sufficient to achieve profitability will depend heavily on the successful development and eventual commercialization of one or more of our Wholly Owned or our Controlled Founded Entities' product candidates, which may never occur. For the years ended December 31, 2019, 2018 and 2017 and the six months ended June 30, 2020, we recognized income of \$366.1 million, incurred a loss of \$70.7 million, incurred a loss of \$75.1 million and recognized income of \$123.7 million, respectively. We had retained earnings as of June 30, 2020 of \$378.4 million.

We have deconsolidated a number of our Founded Entities during the past three fiscal years, including resTORbio, Inc., or resTORbio, in November 2017, Akili, in May 2018, Vor Biopharma Inc. and Karuna Therapeutics, Inc., or Karuna, during the first half of 2019 and Gelesis Inc., or Gelesis, during the second half of 2019. We expect this trend to continue into the foreseeable future as our Founded Entities raise additional funding. Any deconsolidation affects our financials in the following manner:

- our ownership interest does not provide us with a controlling financial interest;
- we no longer control the subsidiary's assets and liabilities and as a result we derecognize the assets, liabilities and non controlling interests related to the subsidiary from our Consolidated Statements of Financial Position;
- we record our non controlling financial interest in the Founded Entity at fair value; and
- the resulting amount of any gain or loss is recognized in our Consolidated Statements of Comprehensive Income/Loss.

We expect our expenses to continue to increase substantially in connection with our ongoing development activities related to our preclinical and clinical programs. In addition, upon the completion of the U.S. listing to which this registration statement relates, we expect to incur additional costs associated with operating as a public company in the United States. We expect that our expenses and capital requirements will increase substantially in the near to mid-term as we:

- continue our research and development efforts;
- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- add clinical, scientific, operational financial and management information systems and personnel, including personnel to support our product development and potential future commercialization claims; and
- operate as a U.S. public company.

In addition, we expect our internal research and development spend to increase in the foreseeable future as we may initiate clinical studies for LYT-100, LYT-200, LYT-210 and LYT-300, and as we continue to progress our programs related to lymphatic targeting, oral biotherapeutics and brain and central nervous system lymphatics.

In addition, with respect to our Founded Entities' programs, we anticipate that we will continue to fund a small portion of development costs by strategically participating in such companies' financings when doing so would be in the interests of our shareholders. The form of any such participation may include investment in public or private financings, collaboration and partnership arrangements and licensing arrangements, among others. Our management and strategic decision makers have not made decisions regarding the future allocation of our resources among our Founded Entities, but evaluate the needs and opportunities with respect to each of these Founded Entities routinely and on a case-by-case basis.

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As a result, we may need substantial additional funding to support our continuing operations and pursue our growth strategy. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operations through a combination of public or private equity or debt financings or other sources, which may include monetization of certain of our interests in our Founded Entities and collaborations with third parties. We may be unable to raise additional funds or enter into such other agreements or arrangements when needed on favorable terms, or at all. If we fail to raise capital or enter into such agreements as, and when needed, we may have to significantly delay, scale back or discontinue the development and commercialization of one or more of our Wholly Owned product candidates.

License and Collaboration Agreements

We have a disciplined strategy to maximize the value of our Wholly Owned Pipeline, or Internal segment, and have partnered, and plan to continue to partner, product candidates that we believe have promising utility in disease areas or patient populations that are better served by resources of larger biopharmaceutical companies. We are party to a collaboration and license agreement with Boehringer Ingelheim, or BI, to evaluate the feasibility of applying our lymphatic targeting technology to advance certain of BI's IO product candidates.

See "Business—License Agreements" for a detailed description of our collaboration agreements.

We have also entered into exclusive license agreements with each of NYU, Monash University, University of Louisville, Memorial Sloan Kettering Cancer Center and University of Virginia, pursuant to which we have in-licensed certain early stage technology for our Wholly Owned Programs. Pursuant to these agreements, the universities are entitled to non-material payments upon the achievement of certain specified development and sales based milestones. Additionally, the universities are entitled to low single digit royalty payments on net sales of any products covered by their intellectual property.

COVID-19

In December 2019, illnesses associated with COVID-19 were reported and the virus has since caused widespread and significant disruption to daily life and economies across geographies. The World Health Organization has classified the outbreak as a pandemic. Our business, operations and financial condition and results has not been significantly impacted during the six months ended June 30, 2020 as a result of the COVID-19 pandemic. In response to the COVID-19 pandemic, we have taken swift action to ensure the safety of our employees and other stakeholders. We continue to monitor the latest developments regarding the COVID-19 pandemic on our business, operations, and financial condition and results, and have made certain assumptions regarding the pandemic for purposes of our operational planning and financial projections, including assumptions regarding the duration and severity of the pandemic and the global macroeconomic impact of the pandemic. Despite careful tracking and planning, however, we are unable to accurately predict the extent of the impact of the pandemic on our business, operations, and financial condition and results in future periods due to the uncertainty of future developments. We are focused on all aspects of our business and are implementing measures aimed at mitigating issues where possible including by using digital technology to assist operations for our R&D and enabling functions.

Basis of Presentation and Consolidation

Our consolidated financial information consolidates the financial information of PureTech Health plc, as well as its subsidiaries, and includes our interest in associates and investments held at fair value, and is reported in four operating segments as described below.

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Basis for Segmentation

Our directors are our strategic decision-makers. Our operating segments are based on the financial information provided to our directors at least quarterly for the purposes of allocating resources and assessing performance. We have determined that each Founded Entity is representative of a single operating segment as our directors monitor the financial results at this level. When identifying the reportable segments we have determined that it is appropriate to aggregate multiple operating segments into a single reportable segment given the high level of operational and financial similarities across the entities. We have identified four reportable segments which are outlined below. Substantially all of our revenue and profit generating activities are generated within the United States and, accordingly, no geographical disclosures are provided.

Internal

The Internal segment (the “Internal segment”), is advancing a pipeline fueled by recent discoveries in lymphatics and immune cell trafficking to modulate disease in a tissue-specific manner. These programs leverage the transport and biodistribution of various immune system components for the targeted treatment of diseases with major unmet needs, including cancers, autoimmune diseases, and neuroimmune disorders. The Internal segment is comprised of the technologies that will be advanced through either PureTech Health funding or non-dilutive sources of financing in the near-term. The operational management of the Internal segment is conducted by the PureTech Health team, which is responsible for the strategy, business development, and research and development. As of June 30, 2020, this segment included PureTech LYT, Inc. (formerly Ariya Therapeutics Inc.) and PureTech LYT 100, Inc.

Controlled Founded Entities

The Controlled Founded Entities segment (the “Controlled Founded Entity segment”) is comprised of our subsidiaries that are currently consolidated operational subsidiaries that either have, or have plans to hire, independent management teams and have previously raised, or are currently in the process of raising, third-party dilutive capital. These subsidiaries have active research and development programs and either have entered into or plan to seek a strategic partnership with an equity or debt investment partner, who will provide additional industry knowledge and access to networks, as well as additional funding to continue the pursued growth of the company. As of June 30, 2020, this segment included Alivio Therapeutics, Inc., Entrega, Inc., Follica, Incorporated, Sonde Health, Inc. and Vedanta Biosciences, Inc. This segment also included Commense Inc. for all periods presented through December 31, 2019 (beginning in 2020, Commense Inc. was an inactive subsidiary).

Non-Controlled Founded Entities

The Non-Controlled Founded Entities segment (the “Non-Controlled Founded Entities segment”) is comprised of the entities in respect of which PureTech Health (i) no longer holds majority voting control as a shareholder and (ii) no longer has the right to elect a majority of the members of the entity’s Board of Directors. Upon deconsolidation of an entity the segment disclosure is restated to reflect the change on a retrospective basis, as this constitutes a change in the composition of its reportable segments. As of June 30, 2020, the Non-Controlled Founded Entities segment included Akili Interactive Labs, Inc. (“Akili”), Vor Biopharma, Inc. (“Vor”), Karuna Therapeutics, Inc. (“Karuna”), and Gelesis, Inc. (“Gelesis”). This segment also included resTORbio, Inc. (“resTORbio”) for all periods through December 31, 2017.

The Non-Controlled Founded Entities segment incorporates the operational results of the aforementioned entities to the date of deconsolidation. Following the date of deconsolidation, we account for our investment in each entity at the parent level, and therefore the results associated with investment activity following the date of deconsolidation is included in the Parent Company and Other segment (the “Parent Company and Other segment”).

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Parent Company and Other segment

The Parent Company and Other segment includes activities that are not directly attributable to the operating segments, such as the activities of the Parent, corporate support functions and certain research and development support functions that are not directly attributable to a strategic business segment as well as the elimination of intercompany transactions. This segment also captures the accounting for our holdings in entities for which control has been lost, which is inclusive of the following items: gain on deconsolidation, gain or loss on investments held at fair value, gain on loss of significant influence, and the share of net loss of associates accounted for using the equity method. As of June 30, 2020, this segment included PureTech Health plc, PureTech Health LLC, PureTech Management, Inc. and PureTech Securities Corp., as well as certain other dormant, inactive and shell entities.

The table below summarizes the entities that comprised each of our segments as of June 30, 2020:

Internal Segment	
PureTech LYT	100.0%
PureTech LYT-100, Inc.	100.0%
Controlled Founded Entities	
Alivio Therapeutics, Inc.	91.9%
Entrega, Inc.	83.1%
Follica, Incorporated	85.4%
Sonde Health, Inc.	52.3%
Vedanta Biosciences, Inc.	59.9%
Non-Controlled Founded Entities	
Akili Interactive Labs, Inc.	41.9%
Gelesis, Inc.	26.2%
Karuna Therapeutics, Inc.	17.8%
Vor Biopharma Inc.	16.4%
Parent Segment (1)	
Puretech Health plc	100.0%
PureTech Health LLC	100.0%
PureTech Securities Corporation	100.0%
PureTech Management, Inc.	100.0%

(1) Includes dormant, inactive and shell entities that are not listed here.

Components of Our Results of Operations

Revenue

To date, we have not generated any revenue from product sales and we do not expect to generate any revenue from product sales for the foreseeable future. We derive our revenue from the following:

Contract revenue.

We generate revenue primarily from licenses, services and collaboration agreements, including amounts that are recognized related to upfront payments, milestone payments and amounts due to us for research and development services. In the future, revenue may include additional milestone payments and royalties on any net product sales under our collaborations. We expect that any revenue we generate will fluctuate from period to period as a result of the timing and amount of license, research and development services and milestone and other payments.

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Grant Revenue.

Grant revenue is derived from grant awards that we receive from governmental agencies and non-profit organizations for certain qualified research and development expenses. We recognize grants from governmental agencies as grant income in the Consolidated Statement of Comprehensive Income/(Loss), gross of the expenditures that were related to obtaining the grant, when there is reasonable assurance that we will comply with the conditions within the grant agreement and there is reasonable assurance that payments under the grants will be received. We evaluate the conditions of each grant as of each reporting date to ensure that we have reasonable assurance of meeting the conditions of each grant arrangement and it is expected that the grant payment will be received as a result of meeting the necessary conditions.

Operating Expenses

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research activities, including our discovery efforts, and the development of our Wholly Owned and our Founded Entities' product candidates, which include:

- employee-related expenses, including salaries, related benefits and equity-based compensation;
- expenses incurred in connection with the preclinical and clinical development of our Wholly Owned and our Founded Entities' product candidates, including our agreements with contract research organizations, or CROs;
- expenses incurred under agreements with consultants who supplement our internal capabilities;
- the cost of lab supplies and acquiring, developing and manufacturing preclinical study materials and clinical trial materials;
- costs related to compliance with regulatory requirements; and
- facilities, depreciation and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, insurance and other operating costs.

We expense all research costs in the periods in which they are incurred and development costs are capitalized only if certain criteria are met. For the periods presented, we have not capitalized any development costs since we have not met the necessary criteria required for capitalization. Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors and third-party service providers.

Research and development activities are central to our business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect that our research and development expenses will continue to increase for the foreseeable future in connection with our planned preclinical and clinical development activities in the near term and in the future. The successful development of our Wholly Owned and our Founded Entities' product candidates is highly uncertain. As such, at this time, we cannot reasonably estimate or know the nature, timing and estimated costs of the efforts that will be necessary to complete the remainder of the development of these product candidates. We are also unable to predict when, if ever, material net cash inflows will commence from our Wholly Owned or our Founded Entities' product candidates. This is due to the numerous risks and uncertainties associated with developing products, including the uncertainty of:

- progressing research and development of our product pipeline, including LYT-100, LYT-200, LYT-210, LYT-300 and our programs related to lymphatic targeting, oral biotherapeutics and brain and central nervous system lymphatics and other potential product candidates within our Wholly Owned Programs;

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- establishing an appropriate safety profile with investigational new drug application enabling studies to advance our preclinical programs into clinical development;
- the success of our Founded Entities and their need for additional capital;
- identifying new product candidates to add to our development pipeline;
- successful enrollment in, and the initiation and completion of, clinical trials;
- the timing, receipt and terms of any marketing approvals from applicable regulatory authorities;
- commercializing our Wholly Owned and our Founded Entities' product candidates, if approved, whether alone or in collaboration with others;
- establishing commercial manufacturing capabilities or making arrangements with third-party manufacturers;
- addressing any competing technological and market developments, as well as any changes in governmental regulations;
- negotiating favorable terms in any collaboration, licensing or other arrangements into which we may enter and performing our obligations under such arrangements;
- maintaining, protecting and expanding our portfolio of intellectual property rights, including patents, trade secrets and know-how, as well as obtaining and maintaining regulatory exclusivity for our Wholly Owned and our Founded Entities' product candidates;
- continued acceptable safety profile of our products, if any, following approval; and
- attracting, hiring and retaining qualified personnel.

A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. For example, the U.S. Food and Drug Administration, or FDA, the European Medicines Agency, or EMA, or another comparable foreign regulatory authority may require us to conduct clinical trials beyond those that we anticipate will be required for the completion of clinical development of a product candidate, or we may experience significant trial delays due to patient enrollment or other reasons, in which case we would be required to expend significant additional financial resources and time on the completion of clinical development. In addition, we may obtain unexpected results from our clinical trials and we may elect to discontinue, delay or modify clinical trials of some product candidates or focus on others. Identifying potential product candidates and conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve product sales. In addition, our Wholly Owned and our Founded Entities' product candidates, if approved, may not achieve commercial success.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for personnel in our executive, finance, corporate and business development and administrative functions. General and administrative expenses also include professional fees for legal, patent, accounting, auditing, tax and consulting services, travel expenses and facility-related expenses, which include direct depreciation costs and allocated expenses for rent and maintenance of facilities and other operating costs.

We expect that our general and administrative expenses will increase in the future as we increase our general and administrative headcount to support our continued research and development and potential commercialization of our portfolio of product candidates. We also expect to incur increased expenses associated with being a public company in the United States, including costs of accounting, audit, information systems, legal, regulatory and tax compliance services, director and officer insurance costs and investor and public relations costs.

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Total Other Income/(Loss)

Gain on Deconsolidation

Upon losing control of a subsidiary, the assets and liabilities are derecognized along with any related non-controlling interest (“NCI”). Any interest retained in the former subsidiary is measured at fair value when control is lost. Any resulting gain or loss is recognized as profit or loss in the Consolidated Statements of Comprehensive Income/(Loss).

Gain (Loss) on Investments Held at Fair Value

Investments held at fair value include both unlisted and listed securities held by us, which include investments in Akili, Gelesis, Karuna, Vor, ResTORbio (until its sale in 2020) and certain insignificant investments. Our ownership in Akili, Gelesis and Vor is in preferred shares and our ownership of Karuna was in preferred shares until its IPO in June 2019 when such shares were converted into common shares. When Karuna’s preferred shares converted into common shares, our equity interest in Karuna investment was removed from Investments Held at Fair Value and accounted for under the equity method as we still retained significant influence in Karuna at such time. On December 2, 2019 we lost significant influence in Karuna and, beginning on that date, we accounted for our investment in Karuna in accordance with IFRS 9 as an Investment Held at Fair Value. We account for investments in preferred shares of our associates in accordance with IFRS 9 as Investments Held at Fair Value when the preferred shares do not provide access to returns underlying ownership interests.

Gain on Loss of Significant Influence

Gain on loss of significant influence relates to the assessment in connection with our ability to exert significant influence over an investment in a Non-Controlled Founded Entity. As of June 30, 2020, only our common share investment in Gelesis meets the scope of equity method accounting. For the years ended December 31, 2019 and 2018, we recognized gains on loss of significant influence in Karuna and resTORbio, respectively.

Other Income (Expense)

Other income (expense) consists primarily of gains and losses related to the sale of an asset and certain investments as well as sub-lease income.

Finance Costs/Income

Finance costs consist of loan interest expense and the changes in the fair value of certain liabilities associated with financing transactions. Finance income consists of interest income on funds invested in U.S. treasuries.

Share of Net Gain (Loss) of Associates Accounted for Using the Equity Method, and Impairment of Investment in Associate

Associates are accounted for using the equity method (equity accounted investees) and are initially recognized at cost, or if recognized upon deconsolidation they are initially recorded at fair value at the date of deconsolidation. The consolidated financial statements include our share of the total comprehensive income and equity movements of equity accounted investees, from the date that significant influence commences until the date that significant influence ceases. When the share of losses exceeds its net investment in the investee, the carrying amount is reduced to nil and recognition of further losses is discontinued except to the extent that we have incurred legal or constructive obligations or made payments on behalf of an investee.

We compare the recoverable amount of the investment to its carrying amount on a go-forward basis and determines the need for impairment and reversal of impairment losses.

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Income Tax

We must make certain estimates and judgments in determining income tax expense for financial statement purposes. The amount of taxes currently payable or refundable is accrued, and deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amount of existing assets and liabilities and their respective tax bases. Deferred tax assets are also recognized for realizable loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using substantively enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in income tax rates is recognized in our financial statements in the period that includes the substantive enactment date.

Results of Operations

The following table, which has been derived from our audited financial statements for the years ended December 31, 2019, 2018 and 2017 and our unaudited condensed consolidated financial statements for the six months ended June 30, 2020 and 2019 included herein, summarizes our results of operations for the periods indicated, together with the changes in those items in dollars:

(in thousands)	Year Ended December 31,				
	2019	2018	2017	Change (2018 to 2019)	Change (2017 to 2018)
Contract revenue	\$ 8,688	\$ 16,371	\$ 650	\$ (7,683)	\$ 15,721
Grant revenue	1,119	4,377	1,885	(3,258)	2,492
Total revenue	9,807	20,748	2,535	(10,941)	18,213
Operating expenses:					
General and administrative expenses	(59,358)	(47,365)	(46,283)	(11,993)	(1,082)
Research and development expenses	(85,848)	(77,402)	(71,672)	(8,445)	(5,730)
Operating income/(loss)	(135,399)	(104,019)	(115,420)	(31,380)	11,401
Other income/(expense):					
Gain/(loss) on deconsolidation	264,409	41,730	85,016	222,679	(43,286)
Gain/(loss) on investments held at fair value	(37,863)	(34,615)	57,334	(3,248)	(91,949)
Loss realized on sale of investment	—	—	—	—	—
Loss on impairment of intangible asset	—	(30)	—	30	(30)
Gain/(loss) on disposal of assets	(82)	4,060	—	(4,142)	4,060
Gain on loss of significant influence	445,582	10,287	—	435,295	10,287
Other income/(expenses)	121	(278)	14	399	(292)
Other income/(loss)	672,167	21,154	142,364	651,013	(121,210)
Net finance income/(costs)	(46,147)	25,917	(80,047)	(72,065)	105,964
Share of net gain/(loss) of associates accounted for using the equity method	30,791	(11,490)	(17,608)	42,281	6,118
Impairment of investment in associate	(42,938)	—	—	(42,938)	—
Income/(loss) before income taxes	478,474	(68,438)	(70,711)	546,911	2,273
Taxation	(112,409)	(2,221)	(4,383)	(110,188)	2,162
Net income/(loss) including non-controlling interest	366,065	(70,659)	(75,094)	436,724	4,435
Net (loss)/income attributable to the Company	\$ 421,144	\$ (43,654)	\$ 26,472	\$ 464,798	\$ (70,126)

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(in thousands)	Six Months Ended June 30,		
	2020	2019	Change
Contract revenue	\$ 5,465	\$ 3,955	\$ 1,510
Grant revenue	1,379	432	947
Total revenue	6,844	4,387	2,457
Operating expenses:			
General and administrative expenses	(21,376)	(29,196)	7,820
Research and development expenses	(38,250)	(45,507)	7,257
Operating income/(loss)	(52,782)	(70,317)	17,534
Other income/(expense):			
Gain on deconsolidation	—	108,395	(108,395)
Gain/(loss) on investments held at fair value	276,910	52,375	224,535
Loss realized on sale of investment	(44,539)	—	(44,539)
Loss on impairment of intangible asset	—	—	—
Gain/(loss) on disposal of assets	—	—	—
Gain on loss of significant influence	—	—	—
Other income/(expense)	482	(41)	522
Other income/(loss)	232,852	160,729	72,122
Net finance income/(costs)	1,685	(34,126)	35,811
Share of net gain/(loss) of associates accounted for using the equity method	(7,271)	—	(7,271)
Impairment of investment in associate	—	—	—
Income/(loss) before income taxes	174,483	56,287	118,196
Taxation	(50,775)	(25,142)	(25,633)
Net income/(loss) including non-controlling interest	123,708	31,145	92,563
Net (loss)/income attributable to the Company	\$ 123,957	\$ 73,506	\$ 50,450

Comparison of the Years Ended December 31, 2018 and 2017

Total Revenue

(in thousands)	Year Ended December 31,		
	2018	2017	Change
Contract Revenue:			
Internal Segment	\$ 2,110	\$ —	\$ 2,110
Controlled Founded Entities	14,233	625	13,608
Non-Controlled Founded Entities	—	—	—
Parent Company and other	29	25	4
Total Contract Revenue	\$ 16,371	\$ 650	\$ 15,721
Grant Revenue:			
Internal Segment	\$ 86	\$ —	\$ 86
Controlled Founded Entities	4,271	1,255	3,016
Non-Controlled Founded Entities	20	630	(610)
Parent Company and other	—	—	—
Total Grant Revenue	\$ 4,377	\$ 1,885	\$ 2,492

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Our total revenue was \$20.7 million for the year ended December 31, 2018, an increase of \$18.2 million, or 718.5 percent compared to the year ended December 31, 2017. The growth was attributable to increases of \$13.6 million in contract revenue and \$3.0 million in grant revenue in the Controlled Founded Entities segment for the year ended December 31, 2018, which was driven primarily by contract revenue earned under Vedanta's milestone-based JBI collaboration agreement and its CARB-X grant agreement. The growth was further attributable to an increase of \$2.1 million in revenue earned in the Internal segment under the Orasome collaboration and license agreement with Roche for the year ended December 31, 2018.

Research and Development Expenses

<u>(in thousands)</u>	<u>Year Ended December 31,</u>		
	<u>2018</u>	<u>2017</u>	<u>Change</u>
Research and Development Expenses:			
Internal Segment	\$ (8,929)	\$ (1,515)	\$ 7,414
Controlled Founded Entities	(36,930)	(25,553)	11,377
Non-Controlled Founded Entities	(29,851)	(41,395)	(11,544)
Parent Company and other	(1,692)	(3,209)	(1,517)
Total Research and Development Expenses:	<u>\$(77,402)</u>	<u>\$(71,672)</u>	<u>\$ 5,730</u>

Our research and development expenses were \$77.4 million for the year ended December 31, 2018, an increase of \$5.7 million, or 8.0 percent compared to the year ended December 31, 2017. The change was attributable to increases of \$7.4 million in the Internal segment and \$11.4 million in the Controlled Founded entities segment for the year ended December 31, 2018, which were primarily due to increased headcount and increased clinical trial expense. The increases were offset partially by a decline of \$11.5 million owing to the deconsolidation of resTORbio during the year ended December 31, 2017 and the deconsolidation of Akili during the year ended December 31, 2018.

General and Administrative Expenses

<u>(in thousands)</u>	<u>Year Ended December 31,</u>		
	<u>2018</u>	<u>2017</u>	<u>Change</u>
General and Administrative Expenses:			
Internal Segment	\$ (1,498)	\$ (402)	\$1,096
Controlled Founded Entities	(10,212)	(10,671)	(459)
Non-Controlled Founded Entities	(16,385)	(17,064)	(679)
Parent Company and other	(19,270)	(18,146)	1,124
Total General and Administrative Expenses	<u>\$(47,365)</u>	<u>\$(46,283)</u>	<u>\$1,082</u>

Our general and administrative expenses were \$47.4 million for the year ended December 31, 2018, an increase of \$1.1 million, or 2.3 percent compared to the year ended December 31, 2017. The change was attributable to increases of \$1.1 million in the Parent segment and \$1.1 million in the Internal segment, which were primarily due to increased headcount and increased professional fees. The increases were partially offset by a decline of \$0.7 million in the Non-Controlled Founded Entities segment, primarily owing to the deconsolidation of resTORbio during the year ended December 31, 2017 and the deconsolidation of Akili during the year ended December 31, 2018, as well as a decline of \$0.5 million in the Controlled Founded Entities segment for year ended December 31, 2018.

Total Other Income (Loss)

Total other income was \$21.2 million for the year ended December 31, 2018, a decrease of \$121.2 million, or 85.1 percent as compared to the year ended December 31, 2017. The decline was attributable to a \$91.9 million

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increase in fair value accounting losses on certain investments held at fair value for the year ended December 31, 2018 and a \$43.3 million decline in gain on deconsolidation as we recognized a gain of \$41.7 million for the deconsolidation of Akili during the year ended December 31, 2018 compared to a gain of \$85.0 million for the deconsolidation of resTORbio during the year ended December 31, 2017. The decline was partially offset by gains of \$10.3 million on loss of significant influence of resTORbio and \$4.1 million on disposal of assets for the year ended December 31, 2018.

Net Finance Income (Costs)

Net finance income was \$25.9 million for the year ended December 31, 2018, an increase of \$106.0 million in income, or 132.4 percent as compared to the year ended December 31, 2017. The income growth was attributable to a \$103.8 million decline in the change in the fair value of our preferred shares, warrant and convertible note liabilities held by third parties for the year ended December 31, 2018.

Share of Net Gain (Loss) in Associates Accounted for Using the Equity Method, and Impairment of Investment in Associate

The share of net loss in associates was \$11.5 million for the year ended year ended December 31, 2018, a decline of \$6.1 million, or 34.7 percent as compared to the year ended December 31, 2017. The decline in share of associate net loss was attributable to the results of resTORbio for the year ended December 31, 2018.

Taxation

Income tax expense was \$2.2 million for the year ended December 31, 2018, a decrease of \$2.2 million, or 49.3 percent as compared to the year ended December 31, 2017. The decline in income tax expense was primarily attributable to the enactment of the Tax Cuts and Jobs Act of 2017 by United States Congress in November 2017 and subsequent tax provision benefits realized for the year ended December 31, 2018.

Comparison of the Years Ended December 31, 2019 and 2018

Total Revenue

<u>(in thousands)</u>	<u>Year Ended December 31,</u>		
	<u>2019</u>	<u>2018</u>	<u>Change</u>
Contract Revenue:			
Internal Segment	\$6,064	\$ 2,110	\$ 3,954
Controlled Founded Entities	2,487	14,233	(11,745)
Non-Controlled Founded Entities	—	—	—
Parent Company and other	137	29	108
Total Contract Revenue	\$8,688	\$16,371	\$ (7,683)
Grant Revenue:			
Internal Segment	\$ 15	\$ 86	\$ (72)
Controlled Founded Entities	1,104	4,271	(3,167)
Non-Controlled Founded Entities	—	20	(20)
Parent Company and other	—	—	—
Total Grant Revenue	\$1,119	\$ 4,377	\$ (3,258)

Our total revenue was \$9.8 million for the year ended December 31, 2019, a decrease of \$10.9 million, or 52.7 percent compared to the year ended December 31, 2018. The decline was attributable to decreases of \$11.7 million in contract revenue and \$3.2 million in grant revenue in the Controlled Founded Entities segment

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for the year ended December 31, 2019, which was driven primarily by Vedanta's contract revenue earned under its milestone-based JBI collaboration agreement and grant revenue earned pursuant to its CARB-X agreement. The decline in Controlled Founded Entities segment's contract and grant revenues, was partially offset by a \$4.0 million increase in contract revenue in the Internal segment, which was driven by increases in contract revenue earned under the Orasome collaboration and license agreement with Roche and the Lymphatic Targeting platform collaboration and license agreement with Boehringer Ingelheim entered into in July 2019 for the year ended December 31, 2019.

Research and Development Expenses

<u>(in thousands)</u>	<u>Year Ended December 31,</u>		
	<u>2019</u>	<u>2018</u>	<u>Change</u>
Research and Development Expenses:			
Internal Segment	\$(25,977)	\$ (8,929)	\$ 17,048
Controlled Founded Entities	(42,780)	(36,930)	5,850
Non-Controlled Founded Entities	(15,555)	(29,851)	(14,296)
Parent Company and other	(1,536)	(1,692)	(156)
Total Research and Development Expenses:	\$(85,848)	\$(77,402)	\$ 8,446

Our research and development expenses were \$85.8 million for the year ended December 31, 2019, an increase of \$8.4 million, or 10.9 percent compared to the year ended December 31, 2018. The change was attributable to an increase of \$17.0 million in research and development expenses incurred by the Internal segment for the year ended December 31, 2019. In 2019, we continued to shift our focus towards the Internal segment, investing in research and development activities to advance a wholly owned pipeline of lymphatic system and related immuno-oncology programs. We progressed LYT-100 to first patient dosing in 2020 and prepared for LYT-200 to begin a Phase 1 clinical study in solid tumors during the second half of 2020. Research and development expenses in the Controlled Founded Entities segment also increased \$5.9 million, as Vedanta progressed its candidates VE202, VE303, VE416 and VE800 to meaningful milestones. The increases were partially offset by a decline of \$14.3 million in the Non-Controlled Founded Entities segment owing to the deconsolidation of Akili during the year ended December 31, 2018 and the deconsolidation of Vor, Karuna and Gelesis during the year ended December 31, 2019.

General and Administrative Expenses

<u>(in thousands)</u>	<u>Year Ended December 31,</u>		
	<u>2019</u>	<u>2018</u>	<u>Change</u>
General and Administrative Expenses:			
Internal Segment	\$ (2,385)	\$ (1,498)	\$ 887
Controlled Founded Entities	(14,436)	(10,212)	4,224
Non-Controlled Founded Entities	(10,439)	(16,385)	(5,946)
Parent Company and other	(32,098)	(19,270)	12,828
Total General and Administrative Expenses	\$(59,358)	\$(47,365)	\$ 11,993

Our general and administrative expenses were \$59.4 million for the year ended December 31, 2019, an increase of \$12.0 million, or 25.3 percent compared to the year ended December 31, 2018. The change was attributable to an increase of \$12.8 million in the Parent segment for the year ended December 31, 2019, which was primarily driven by increased professional fees incurred in the exploration of an ADR listing and increased non-cash depreciation and amortization expenses incurred in the implementation of IFRS 16 *Leases* and the lease we entered into during the year ended December 31, 2019 for our new headquarters. Controlled Founded Entities

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segment's general and administrative expenses also increased \$4.2 million. The increases in the Internal and Controlled Founded Entities segment's were offset by the deconsolidation of Akili during the year ended December 31, 2018 and the deconsolidation of Vor, Karuna and Gelesis during the year ended December 31, 2019.

Total Other Income (Loss)

Total other income was \$672.2 million for the year ended December 31, 2019, an increase of \$651.0 million, as compared to the year ended December 31, 2018. The growth was attributable to an increase of \$435.3 million in gain on loss of significant influence for the year ended December 31, 2019. For the year ended December 31, 2019 we recognized a gain on loss of significant influence of \$445.6 million with respect to Karuna, while for the year ended December 31, 2018 we recognized a gain on loss of significant influence of \$10.3 million with respect to resTORbio. The growth was further attributable to an increase of \$222.7 million in gain on deconsolidation as we recognized a gain of \$264.4 million for the deconsolidation of Vor, Karuna and Gelesis during the year ended December 31, 2019, as compared to a gain of \$41.7 million for the deconsolidation of Akili during the year ended December 31, 2018. The gains were partially offset by a decline of \$4.1 million in income related to asset disposals and an increase in fair value accounting losses of \$3.2 million on certain investments held at fair value for the year ended December 31, 2019.

Net Finance Income (Costs)

Net finance costs were \$46.1 million for the year ended December 31, 2019, an increase of \$72.1 million in costs, or 278.1 percent compared to net finance income of \$25.9 million for the year ended December 31, 2018. The change was primarily attributable to a \$69.1 million increase in the change in the fair value of our preferred shares, warrant and convertible note liabilities held by third parties for the year ended December 31, 2019.

Share of Net Gain (Loss) in Associates Accounted for Using the Equity Method, and Impairment of Investment in Associate

The share of net income in associates was \$30.8 million for the year ended December 31, 2019, an increase of \$42.3 million, or 368.0 percent as compared to a net loss for the year ended December 31, 2018. The change in associate income was attributable to the deconsolidation of Karuna and Gelesis and subsequent equity method accounting from the date of deconsolidation to December 31, 2019. We recorded equity method income of \$37.1 million with respect to Gelesis, which was partially offset by our share of net loss in Karuna of \$6.3 million for the year ended December 31, 2019. Additionally, we recorded an impairment charge of \$42.9 million for the year ended December 31, 2019, related to our investment in common shares held in Gelesis. See Note 6 to the financial statements for the year ended December 31, 2019 included elsewhere in this registration statement.

Taxation

Income tax expense was \$112.4 million for the year ended December 31, 2019, an increase of \$110.2 million, or 4961.2 percent as compared to the year ended December 31, 2018. The growth in income tax expense was primarily attributable to the gains realized on the loss of significant influence on Karuna for the year ended December 31, 2019 and the gains recognized on deconsolidation of Vor, Karuna and Gelesis during the year ended December 31, 2019.

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Comparison of the Six Months Ended June 30, 2020 and June 30, 2019

Total Revenue

<u>(in thousands)</u>	<u>Six Months Ended June 30,</u>		
	<u>2020</u>	<u>2019</u>	<u>Change</u>
Contract Revenue:			
Internal Segment	\$3,916	\$2,479	\$1,436
Controlled Founded Entities	1,549	1,262	287
Non-Controlled Founded Entities	—	—	—
Parent Company and other	—	213	(213)
Total Contract Revenue	\$5,465	\$3,955	\$1,510
Grant Revenue:			
Internal Segment	\$ —	\$ 15	\$ (15)
Controlled Founded Entities	1,379	418	961
Non-Controlled Founded Entities	—	—	—
Parent Company and other	—	—	—
Total Grant Revenue	\$1,379	\$ 432	\$ 947

Our total revenue was \$6.8 million for the six months ended June 30, 2020, an increase of \$2.5 million, or 56.0 percent compared to the six months ended June 30, 2019. The growth was attributable to an increase in Internal segment contract revenue of \$1.4 million, which was primarily driven by \$2.4 million earned under the Lymphatic Targeting platform collaboration and license agreement with Boehringer Ingelheim entered into in July 2019, and was partially offset by a \$1.0 million decrease in revenue earned under the Orasome collaboration and license agreement with Roche for the six months ended June 30, 2020. The growth in contract revenue was further augmented by increases in Controlled Founded Entities segment's grant revenue of \$1.0 million, which was driven by \$0.5 million and \$0.4 million increases in grant revenue earned by Alivio and Vedanta, respectively, for the six months ended June 30, 2020.

Research and Development Expenses

<u>(in thousands)</u>	<u>Six Months Ended June 30,</u>		
	<u>2020</u>	<u>2019</u>	<u>Change</u>
Research and Development Expenses:			
Internal Segment	\$(17,616)	\$(10,757)	\$ 6,859
Controlled Founded Entities	(20,594)	(18,534)	2,061
Non-Controlled Founded Entities	—	(15,555)	(15,555)
Parent Company and other	(40)	(662)	(621)
Total Research and Development Expenses:	\$(38,250)	\$(45,507)	\$ (7,257)

Our research and development expenses were \$38.3 million for the six months ended June 30, 2020, a decrease of \$7.3 million, or 15.9 percent as compared to the six months ended June 30, 2019. The decrease was attributable to the deconsolidation of Vor and Karuna during the six months ended June 30, 2019 and Gelesis during the six months ended December 31, 2019. The decline owing to deconsolidation was partially offset, primarily, by an increase of \$6.9 million in the Internal segment during the six months ended June 30, 2020. We progressed LYT-100 to first patient dosing in a Phase 1 multiple ascending dose study in March 2020 and plan for initiation of a proof of concept study for the treatment of breast cancer-related, upper limb secondary lymphedema later in 2020. We also advanced LYT-100 towards first patient dosing in a Phase 1 trial which is anticipated to begin in Q3 2020 for the treatment of serious respiratory complications following the resolution of

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acute COVID-19. Additionally, we further prepared LYT-200 for first patient dosing in its Phase 1 trial for solid tumors which is anticipated to begin in 2020.

General and Administrative Expenses

<u>(in thousands)</u>	<u>Six Months Ended June 30,</u>		
	<u>2020</u>	<u>2019</u>	<u>Change</u>
General and Administrative Expenses:			
Internal Segment	\$ (1,495)	\$ (1,157)	\$ 338
Controlled Founded Entities	(6,229)	(6,391)	(161)
Non-Controlled Founded Entities	—	(10,439)	(10,439)
Parent Company and other	(13,652)	(11,210)	2,442
Total General and Administrative Expenses	<u>\$(21,376)</u>	<u>\$(29,196)</u>	<u>\$ (7,820)</u>

Our general and administrative expenses were \$21.4 million for the six months ended June 30, 2020, a decrease of \$7.8 million or 26.8 percent as compared to the six months ended June 30, 2019. The decrease was attributable to the decline in general and administrative expenses within the Non-Controlled Founded Entities segment owing to the deconsolidation of Vor and Karuna during the six months ended June 30, 2019 and Gelesis during the six months ended December 31, 2019. The decline was partially offset by growth of \$2.4 million in the Parent segment, which was primarily driven by non-cash increases of \$1.5 million in stock based compensation expense and \$0.7 million in depreciation expense for the six months ended June 30, 2020.

Total Other Income (Loss)

Total other income was \$232.9 million for the six months ended June 30, 2020, an increase of \$72.1 million, or 44.9 percent as compared to the six months ended June 30, 2019. The growth in other income was attributable to an increase in fair value accounting gains of \$224.5 on certain investments held at fair value, which was partially offset by a decline in gain on deconsolidation of \$108.4 million for the six months ended June 30, 2020. During the six months ended June 30, 2019 we recognized a gain of \$108.4 million for the deconsolidation of Vor and Karuna, while during the six months ended June 30, 2020 we recognized no deconsolidation related income or losses. The growth in other income was further offset by \$44.5 million in realized losses owing to blockage discount on the sale of Karuna shares for the six months ended June 30, 2020.

Net Finance Income (Costs)

Total net finance income was \$1.7 million for the six months ended June 30, 2020, as compared to net finance costs of \$34.1 million for the six months ended June 30, 2019, an increase in income of \$35.8 million, or 104.9 percent as compared to the six months ended June 30, 2019. The increase in finance income was primarily attributable to a \$34.8 million decline in losses resulting from the change in fair value of our subsidiary preferred shares, warrant and convertible note liabilities held by third parties for the six months ended June 30, 2020.

Share of Net Gain (Loss) in Associates Accounted for Using the Equity Method, and Impairment of Investment in Associate

The share of net loss in associates was \$7.3 million for the six months ended June 30, 2020, an increase of \$7.3 million as compared to the six months ended June 30, 2019. The growth in associate loss was attributable to the deconsolidation of Gelesis during the six months ended December 31, 2019 and subsequent equity method accounting for the six months ended June 30, 2020.

Taxation

Income tax expense was \$50.8 million for the six months ended June 30, 2020, an increase of \$25.6 million, or 102.0 percent as compared to the six months ended June 30, 2019. The growth in income tax expense was

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primarily attributable to fair value accounting gains on certain investments held at fair value for the six months ended June 30, 2020.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our financial statements, which we have prepared in accordance with IFRS as issued by the IASB. In the preparation of these financial statements, we are required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates under different assumptions or conditions.

Our estimates and assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period or in the period of the revisions and future periods if the revision affects both current and future periods.

While our significant accounting policies are described in more detail in the notes to our consolidated financial statements appearing at the end of this registration statement, we believe the following accounting policies to be most critical to the judgments and estimates used in the preparation of our financial statements. See Note 1 to our consolidated financial statements for a further detailed description of our significant accounting policies.

Financial instruments

We account for our financial instruments according to IFRS 9. As such, when issuing preferred shares in our subsidiaries we determine the classification of financial instruments in terms of liability or equity. Such determination involves significant judgement. These judgements include an assessment of whether the financial instruments include any embedded derivative features, whether they include contractual obligations upon us to deliver cash or other financial assets or to exchange financial assets or financial liabilities with another party, and whether that obligation will be settled by exchanging a fixed amount of cash or other financial assets for a fixed number of its own equity instruments.

In accordance with IFRS 9 we carry certain investments in equity securities at fair value as well as our subsidiary preferred share, convertible notes and warrant liabilities, all through profit and loss (FVTPL). Valuation of the aforementioned financial instruments (assets and liabilities) includes making significant estimates, specifically determining the appropriate valuation methodology and making certain estimates of the future earnings potential of the subsidiary businesses, appropriate discount rate and earnings multiple to be applied, marketability and other industry and company specific risk factors.

Revenue recognition:

We follow the five step model instituted by IFRS 15 to recognize revenue. This includes making certain judgements when determining the appropriate accounting treatment of key customer contract. In particular, judgement is required to determine the performance obligations in a contract (if promised goods and services are distinct or not) and timing of revenue recognition (on delivery or over a period of time).

For overtime recognition, we determine progress based on costs completed to total estimated contract costs. As such we need to make certain estimates of costs to be incurred for meeting our obligations under the contract. The costs are for research and development activity and the estimation uncertainty is regarding the level of activity required to meet the performance obligation and the timing in which that arises during the term of the contract.

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Consolidation:

The consolidated financial statements include the financial statements of the Company and the entities it controls. Based on the applicable accounting rules, the Company controls an investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Therefore an assessment is required to determine whether the Company has i) power over the investee; (ii) exposure, or rights, to variable returns from its involvement with the investee; and (iii) the ability to use its power over the investee to affect the amount of the investor's returns. Judgement is required to perform such assessment and it requires that the Company consider, among others, activities that most significantly affect the returns of the investee, its voting shares, representation on the board, rights to appoint management, investee dependence on the Company and other contributing factors.

Investment in Associates

When we do not control an investee but maintain significant influence over the financial and operating policies of the investee the investee is an associate. Significant influence is presumed to exist when we hold 20 percent or more of the voting power of an entity, unless it can be clearly demonstrated that this is not the case. We evaluate if we maintain significant influence over associates by assessing if we have the power to participate in the financial and operating policy decisions of the associate.

Associates are accounted for using the equity method (equity accounted investees) and are initially recognized at cost, or if recognized upon deconsolidation they are initially recorded at fair value at the date of deconsolidation. The consolidated financial statements include our share of the total comprehensive income and equity movements of equity accounted investees, from the date that significant influence commences until the date that significant influence ceases. When our share of losses exceeds its net investment in an equity accounted investee, the carrying amount is reduced to zero and recognition of further losses is discontinued except to the extent that we have incurred legal or constructive obligations or made payments on behalf of an investee. To the extent we hold interests in associates that are not providing access to returns underlying ownership interests and are more akin to debt like securities, the instrument held by PureTech is accounted for in accordance with IFRS 9.

Judgement is required in order to determine whether we have significant influence over financial and operating policies of investees. This judgement includes, among others, an assessment whether we have representation on the board of directors of the investee, whether we participate in the policy making processes of the investee, whether there is any interchange of managerial personnel, whether there is any essential technical information provided to the investee and if there are any transactions between us and the investee.

Judgment is also required to determine which instruments we hold in the investee form part of the investment in the associate, which is accounted for under IAS 28 and scoped out of IFRS 9, and which instruments are separate financial instruments that fall under the scope of IFRS 9. This judgement includes an assessment of the characteristics of the financial instrument of the investee held by us and whether such financial instrument provides access to returns underlying an ownership interest.

Income Taxes

We must make certain estimates and judgments in determining income tax expense for financial statement purposes. The amount of taxes currently payable or refundable is accrued, and deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets are also recognized for realizable loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities for a change in tax rates is recognized in income in the period that includes the enactment date. Net deferred tax assets are not recorded if we do not assess their realization as probable.

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We apply the provisions of the authoritative guidance on accounting for uncertainty in income taxes that was issued by the IASB. Pursuant to this guidance, we may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities based on the technical merits of the position. The tax benefits recognized are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the tax benefit will be realized.

Share-based Payments

Share-based payments includes stock options, restricted stock units (“RSUs”) as well as service, market and performance-based RSU awards in which the expense is recognized based on the grant date fair value of these awards

In accordance with IFRS 2, “Share-based Payments,” the fair value of the share option awards is estimated on the grant date using the Black-Scholes option-valuation model which requires the input of certain assumptions, including the expected life of the share-based award, share price volatility, dividend yield and interest rate. The expected life and volatility are based on our historical data for the purposes of the Black-Scholes option-valuation model. Expected life is based on the median expected term. Volatility is calculated by taking the weighted-average of the historical volatilities of our shares. We have not declared dividends and we do not plan to pay any dividends in the future. The risk-free interest rate for periods in the expected life of the option is based on the U.S. Treasury constant maturities in effect at the time of the grant.

We recognize the estimated fair value of service, market and performance-based awards as share-based compensation expense over the vesting period based upon its determination of whether it is probable that the performance targets will be achieved. We assess the probability of achieving the performance targets at each reporting period. Cumulative adjustments, if any, are recorded to reflect subsequent changes in the estimated outcome of performance-related conditions.

The fair value of the performance-based awards is based on the Monte Carlo simulation analysis utilizing a Geometric Brownian Motion process with 100,000 simulations to value those shares. The model considers share price volatility, risk-free rate and other covariance of comparable public companies and other market data to predict distribution of relative share performance.

Recent Accounting Pronouncements

For information on recent accounting pronouncements, see our consolidated financial statements and the related notes found elsewhere in this registration statement.

Internal Control over Financial Reporting

Prior to the U.S. listing to which this registration statement relates, we have been a public company on the London Stock Exchange, or LSE, with limited requirements to implement and test internal controls under a UK framework. As such, we have not been subject to the internal control over financial reporting requirements of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, and the standards of the PCAOB and our independent registered public accounting firm has not conducted an audit of our internal control over financial reporting in accordance with such rules. As a U.S. public company, Section 404 of the Sarbanes-Oxley will require that our management assess our internal control over financial reporting and include a report of management on our internal control over financial reporting in our annual report on Form 20-F beginning with our second annual report. Although we have adhered to and will continue to adhere to all internal control requirements made relevant by the governance of the LSE, the requirements pertaining to the design and implementation of internal controls over financial reporting as contemplated under the Sarbanes-Oxley Act had not been considered in the production of financial statements for the years ended December 31, 2019, 2018 and 2017 for our annual report issued in the United Kingdom.

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In connection with the audits of our consolidated financial statements as of and for each of the years ended December 31, 2019, 2018 and 2017 we and our independent registered public accounting firm identified a material weakness in our internal controls over financial reporting. SEC guidance defines a material weakness as a deficiency or combination of deficiencies in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

The material weakness relates to several significant deficiencies that were identified which, in aggregate, rise to the level of a material weakness. These significant deficiencies relate to our process around accounting for costs attributed to individual projects, contract and consolidated review, segregation of duties, expense identification, allocation of employee stock compensation expense, and tax provision relating to underlying investments and related party identification. We have taken steps to remediate the material weakness, including increasing the depth and experience within our accounting and finance organization, designing and implementing improved processes and internal controls based on the COSO framework, and internally testing the effectiveness of our internal controls. As with any internal control framework, we cannot be certain that these efforts will be sufficient to remediate our material weaknesses, prevent future material weaknesses or significant deficiencies from occurring.

B. LIQUIDITY AND CAPITAL RESOURCES

Sources of Liquidity

Since our inception, we have not generated any revenue from product sales and have incurred significant operating losses. Our Wholly Owned Programs and most of the product candidates in our Founded Entities are at various phases of preclinical and clinical development. We do not expect to generate significant revenue from sales of product candidates in our Wholly Owned Pipeline for several years, if at all. To date, PureTech Health plc and its predecessor entity has raised a total of \$439.3 million from external funding sources such as major investment funds and other leading investors. We raised \$196.0 million when we completed our IPO on the London Stock Exchange in June 2015, plus an additional \$101.2 million as a follow-on offering that we completed in April 2018. Prior to our IPO, we raised a total of \$142.1 million in consecutive private financing rounds. In the period from January 2017 through June 2020, our Founded Entities strengthened their collective balance sheets by attracting \$1,084.2 million in equity investments and non-dilutive funding, including \$997.6 million from third parties. The balance of the funding is between PureTech Health plc and its Founded Entities. For a description of our structure and relationships with our Founded Entities, see “PureTech Health plc Structure” included elsewhere in this registration statement on Form 20-F.

Our cash flows may fluctuate and are difficult to forecast and will depend on many factors. As of June 30, 2020, we had cash, cash equivalents and short-term investments of \$340.1 million, which included aggregate proceeds of \$12.3 million and \$245.9 million from our sales of resTORbio and Karuna shares, respectively.

Cash Flows

The following table summarizes our cash flows for each of the periods presented:

<i>(in thousands)</i>	Years Ended December 31,			Six Months Ended June 30,	
	2019	2018	2017	2020	2019
Net cash used in operating activities	\$(98,156)	\$(72,796)	\$(88,685)	\$(56,098)	\$(55,326)
Net cash provided by/(used in) investing activities	63,659	(39,645)	83,682	266,052	37,000
Net cash provided by/(used in) financing activities	49,910	156,887	14,696	(2,194)	33,405
Effect of exchange rates on cash and cash equivalents	(104)	(44)	(3)	—	(82)
Net increase in cash and cash equivalents	\$ 15,309	\$ 44,402	\$ 9,690	\$ 207,760	\$ 14,997

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Operating Activities

Net cash used in operating activities was \$72.8 million for the year ended December 31, 2018, as compared to \$88.7 million for the year ended December 31, 2017. The decline in outflows was primarily due to the \$4.4 million decrease in our operating loss and a decline of \$4.5 million in non-cash items, which had no impact on the cash used in operating activities, as well as increases of \$5.6 million in deferred revenues and \$1.3 million in other financial assets for the year ended December 31, 2018.

Net cash used in operating activities was \$98.2 million for the year ended December 31, 2019, as compared to \$72.8 million for the year ended December 31, 2018. The increase in outflows was primarily due to our increased operating loss that resulted from increased research and development activities. In 2019, our income resulted from increased non-cash gains, that had no impact on the cash used in operating activities.

Net cash used in operating activities was \$56.1 million for the six months ended June 30, 2020, as compared to \$55.3 million for the six months ended June 30, 2019. Decreased outflows due to our lower operating loss were offset by the decline in deferred revenues of \$8.5 million and increased outflows resulting from the decline in accounts payable and accrued expenses of \$8.8 million.

Investing Activities

Net cash used in investing activities was \$39.6 million for the year ended December 31, 2018, as compared to net cash provided by investing activities of \$83.7 million for the year ended December 31, 2017. The increase in outflows was due to the purchase of short-term investments of \$166.5 million, the derecognition of \$13.4 million in cash held at Akili which was deconsolidated during the year ended December 31, 2018, the purchase of property and equipment of \$4.4 million, the purchase of shares in resTORbio totaling \$3.5 million, which was offset by the maturity of short-term investments of \$148.1 million

Net cash provided by investing activities was \$63.7 million for the year ended December 31, 2019, as compared to outflows of \$39.6 million for the year ended December 31, 2018. Cash provided by the maturity of short-term investments of \$174.0 million was offset by the purchase of short-term investments of \$69.5 million as well as the purchase of fixed assets totaling \$12.1 million and the purchase of intangible assets totaling \$0.4 million. The inflow was further offset by our investment in Gelesis convertible promissory notes totaling \$6.5 million and Gelesis Series 3 Growth preferred shares and Karuna Series B preferred shares totaling \$15.2 million. The inflow was further offset by the derecognition of cash totaling \$16.0 million held by Vor, Karuna and Gelesis upon deconsolidation.

Net cash provided by investing activities was \$266.1 million for the six months ended June 30, 2020, as compared to \$37.0 million for the six months ended June 30, 2019. Increased inflows were largely attributable to proceeds attained from the sale of investments held at fair value, Karuna and resTORbio, totaling \$249.0 million and to the maturity of investments in U.S. Treasuries with durations of less than two years which totaled \$30.1 million. The cash inflows were partially offset by the purchase of fixed assets totaling \$2.1 million and the investment in Gelesis Series 3 Growth and Vor Series B preferred share financings totaling \$10.6 million and \$0.5 million, respectively.

Financing Activities

Net cash provided by financing activities was \$156.9 million for the year ended December 31, 2018, as compared to net inflows of \$14.7 million for the year ended December 31, 2017. The net inflow was primarily attributable to aggregate proceeds of the issuance of \$139.6 million received from the Vedanta Series C, Gelesis Series 2 Growth, Akili Series C and Karuna Series A preferred share financings.

Net cash provided by financing activities was \$49.9 million for the year ended December 31, 2019, as compared to \$156.9 million for the year ended December 31, 2018. The net inflow was primarily attributable to aggregate

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proceeds of the issuance of \$51.0 million received from the Vedanta Series C and C-2, Gelesis Series 2 Growth and Sonde Series A-2 preferred share financings. Further inflows of \$1.6 million were attributable to the proceeds from the issuance of convertible notes by Karuna. The inflows were partially offset by payment of our lease liability totaling \$1.7 million and \$1.3 million in tax payments related to the settlement of 2016 RSU awards granted to certain executives.

Net cash used in financing activities was \$2.2 million for the six months ended June 30, 2020, as compared to net inflows of \$33.4 million for the six months ended June 30, 2019. The decline was primarily attributable to the \$12.5 million cash settlement of 2017 RSU awards granted to certain executives and the payment of our lease liability totaling \$1.3 million. The outflows were partially offset by aggregate proceeds of \$11.2 million received from the Vedanta Series C-2 and Sonde Series A-2 preferred share financings.

Funding Requirements

We have incurred operating losses since inception, and we have retained earnings of \$378.4 million at June 30, 2020. Based on our current plans, we believe our existing cash and cash equivalents and short-term investments will be sufficient to fund our operations and capital expenditure requirements into at least 2024. We expect to incur substantial additional expenditures in the near term to support our ongoing activities. Additionally, we expect to incur additional costs as a result of operating as a U.S. public company. We expect to continue to incur net losses for the foreseeable future. Our ability to fund our product development and clinical operations as well as commercialization of our Wholly Owned product candidates, will depend on the amount and timing of cash received from planned financings. Our future capital requirements will depend on many factors, including:

- the costs, timing and outcomes of clinical trials and regulatory reviews associated with our Wholly Owned product candidates;
- the costs of commercialization activities, including product marketing, sales and distribution;
- the costs of preparing, filing and prosecuting patent applications and maintaining, enforcing and defending intellectual property-related claims;
- the emergence of competing technologies and products and other adverse marketing developments;
- the effect on our product development activities of actions taken by the FDA, EMA or other regulatory authorities;
- our degree of success in commercializing our Wholly Owned product candidates, if and when approved; and
- the number and types of future products we develop and commercialize.

A change in the outcome of any of these or other variables with respect to the development of any of our Wholly Owned product candidates could significantly change the costs and timing associated with the development of that product candidate. Further, our operating plans may change in the future, and we may need additional funds to meet operational needs and capital requirements associated with such operating plans.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our operations through a combination of equity financings, debt financings, collaborations with other companies or other strategic transactions. We do not currently have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making acquisitions or capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties,

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we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed, we may be required to delay, limit, reduce or terminate our research, product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Further, our operating plans may change, and we may need additional funds to meet operational needs and capital requirements for clinical trials and other research and development activities. We currently have no credit facility or committed sources of capital. Because of the numerous risks and uncertainties associated with the development and commercialization of our Wholly Owned product candidates, we are unable to estimate the amounts of increased capital outlays and operating expenditures associated with our current and anticipated product development programs.

Quantitative and Qualitative Disclosures about Financial Risks

Interest Rate Sensitivity

As of June 30, 2020, we had cash, cash equivalents and short-term investments of \$340.1 million. Our exposure to interest rate sensitivity is impacted by changes in the underlying U.K. and U.S. bank interest rates. We have not entered into investments for trading or speculative purposes. Due to the conservative nature of our investment portfolio, which is predicated on capital preservation and investments in short duration, high-quality U.S. Treasury Bills and U.S. debt obligations and related money market accounts we do not believe change in interest rates would have a material effect on the fair market value of our portfolio, and therefore we do not expect our operating results or cash flows to be significantly affected by changes in market interest rates.

Foreign Currency Exchange Risk

We maintain our consolidated financial statements in our functional currency, which is the U.S. dollar. Monetary assets and liabilities denominated in currencies other than the functional currency are translated into the functional currency at rates of exchange prevailing at the balance sheet dates. Non-monetary assets and liabilities denominated in foreign currencies are translated into the functional currency at the exchange rates prevailing at the date of the transaction. Exchange gains or losses arising from foreign currency transactions are included in the determination of net income (loss) for the respective periods. We recorded foreign currency losses of zero and \$0.1 million for the periods ended June 30, 2020 and 2019, respectively, which are included in other expense in our Unaudited Condensed Consolidated Statements of Comprehensive Income/(Loss). Translation adjustments are not included in determining net income (loss) but are included in our foreign exchange adjustment to other comprehensive loss, a component of shareholders' equity.

We do not currently engage in currency hedging activities in order to reduce our currency exposure, but we may begin to do so in the future. Instruments that may be used to hedge future risks include foreign currency forward and swap contracts. These instruments may be used to selectively manage risks, but there can be no assurance that we will be fully protected against material foreign currency fluctuations.

Controlled Founded Entity Investments

We maintain investments in certain Controlled Founded Entities. Our investments in Controlled Founded Entities are eliminated as intercompany transactions upon financial consolidation. We are however exposed to a preferred share liability owing to the terms of existing preferred shares and the ownership of Controlled Founded Entities preferred shares by third parties. The liability of preferred shares is maintained at fair value through the profit and loss. Our strong cash position, budgeting and forecasting processes, as well as decision making and risk mitigation framework enable us to robustly monitor and support the business activities of the Controlled Founded Entities to ensure no exposure to credit losses and ultimately dissolution or liquidation. Accordingly, we view exposure to third party preferred share liability as low.

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Non-Controlled Founded Entity Investments

We maintain certain investments in Non-Controlled Founded Entities which are deemed associates and accounted for under the equity method. Our exposure to investments in associates is limited to the initial carrying amount upon recognition as an associate. We are not exposed to further contractual obligations or contingent liabilities beyond the value of initial investment. As of June 30, 2020, Gelesis was the only associate. The initial carrying amount of the investment in Gelesis as an associate was \$16.4 million. Accordingly, we view the risk as high.

Equity Price Risk

As of June 30, 2020, we held 4,739,897 common shares of Karuna. The fair value of our investment in the common stock of Karuna was \$528.3 million.

The investment in Karuna is exposed to fluctuations in the market price of these common shares. The effect of a 10.0 percent adverse change in the market price of Karuna common shares as of June 30, 2020 would have been a loss of approximately \$52.8 million recognized as a component of Other income (expense) in our Consolidated Statements of Comprehensive Income/(Loss).

Liquidity Risk

We do not believe we will encounter difficulty in meeting the obligations associated with our financial liabilities that are settled by delivering cash or another financial asset. While we believe our cash, cash equivalents and short-term investments do not contain excessive risk, we cannot provide absolute assurance that in the future our investments will not be subject to adverse changes or decline in value based on market conditions.

Credit Risk

We maintain an investment portfolio in accordance with our investment policy. The primary objectives of our investment policy are to preserve principal, maintain proper liquidity and to meet operating needs. Although our investments are subject to credit risk, our investment policy specifies credit quality standards for our investments and limits the amount of credit exposure from any single issue, issuer or type of investment. However, due to the conservative nature of our investments and relatively short duration, interest rate risk is mitigated. We do not own derivative financial instruments. Accordingly, we do not believe that there is any material market risk exposure with respect to derivative or other financial instruments.

Credit risk is also the risk of financial loss if a customer or counterparty to a financial instrument fails to meet its contractual obligations. We assess the credit quality of customers on an ongoing basis, taking into account its financial position, past experience and other factors. The credit quality of financial assets that are neither past due nor impaired can be assessed by reference to credit ratings (if available) or to historical information about counterparty default rates. We are also potentially subject to concentrations of credit risk in its accounts receivable. Concentrations of credit risk with respect to receivables is owed to the limited number of companies comprising our customer base. Our exposure to credit losses is low, however, due to the credit quality of its larger collaborative partners such as Boehringer Ingelheim and Eli Lilly.

JOBS Act Exemptions and Foreign Private Issuer Status

We qualify as an “emerging growth company” as defined in the U.S. Jumpstart Our Business Startups Act of 2012. An emerging growth company may take advantage of specified reduced reporting and other requirements that are otherwise applicable generally to public companies. This includes an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002. We may take advantage of this exemption for up to five years or such earlier time

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that we are no longer an emerging growth company. We will cease to be an emerging growth company if we have more than \$1.07 billion in total annual gross revenue, have more than \$700.0 million in market value of our ordinary shares held by non-affiliates or issue more than \$1.0 billion of non-convertible debt over a three-year period. We may choose to take advantage of some but not all of these provisions that allow for reduced reporting and other requirements.

We are considering whether we will take advantage of the extended transition period provided under Section 7(a)(2)(B) of the Securities Act of 1933, as amended, for complying with new or revised accounting standards. Since IFRS makes no distinction between public and private companies for purposes of compliance with new or revised accounting standards, the requirements for our compliance as a private company and as a public company are the same.

Upon completion of the U.S. listing to which this registration statement relates, we will report under the Securities Exchange Act of 1934, as amended, or the Exchange Act, as a non-U.S. company with foreign private issuer status. Even after we no longer qualify as an emerging growth company, as long as we qualify as a foreign private issuer under the Exchange Act, we will be exempt from certain provisions of the Exchange Act that are applicable to U.S. domestic public companies, including:

- the sections of the Exchange Act regulating the solicitation of proxies, consents or authorizations in respect of a security registered under the Exchange Act;
- sections of the Exchange Act requiring insiders to file public reports of their stock ownership and trading activities and liability for insiders who profit from trades made in a short period of time;
- the rules under the Exchange Act requiring the filing with the SEC of quarterly reports on Form 10-Q containing unaudited financial and other specified information, or current reports on Form 8-K, upon the occurrence of specified significant events; and
- Regulation FD, which regulates selective disclosures of material information by issuers.

C. RESEARCH AND DEVELOPMENT, PATENTS AND LICENSES

For a discussion of our research and development activities, see the sections of this registration statement titled “Item 4.B.—Business Overview” and “Item 5.A.—Operating Results.”

D. TREND INFORMATION

For a discussion of trends and uncertainties relating to our business, see the sections of this registration statement titled “Item 5A.—Operating Results.”

E. OFF-BALANCE SHEET ARRANGEMENTS

As of June 30, 2020, our off-balance sheet arrangements consist of outstanding standby letters of credit. We have no other off-balance sheet arrangements that have had, or are reasonably likely to have, a material current or future effect on our consolidated financial statements or changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

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F. TABULAR DISCLOSURE OF CONTRACTUAL OBLIGATIONS

Contractual Obligations and Commitments

The following table summarizes our contractual commitments and obligations as of as of December 31, 2019:

(in thousands)	Payments Due By Period				
	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
Operating lease obligations (1) (2)	\$ 37,843	\$ 2,929	\$ 6,964	\$ 9,305	\$18,645
Subsidiary notes payable	1,455	1,455	—	—	—
Warrants	7,997	7,997	—	—	—
Subsidiary preferred shares	100,989	100,989	—	—	—
Total	\$148,284	\$113,370	\$ 6,964	\$ 9,305	\$18,645

- (1) Represents the minimum lease payments due under our operating leases for office and/or laboratory space. For a more detailed description of our operating leases, see Note 21 to our consolidated financial statements found elsewhere in this document. We are subject to new lease accounting guidance as of January 1, 2019. We recognized an asset and a corresponding lease liability for an amount that is less than ten percent of our total consolidated assets.
- (2) Amounts include lease commitments of Vedanta.

We have certain payment obligations under various license and collaboration agreements. Under these agreements we are required to make milestone payments upon successful completion and achievement of certain intellectual property, clinical, regulatory and sales milestones. The payment obligations under the license and collaboration agreements are contingent upon future events such as our achievement of specified development, clinical, regulatory and commercial milestones, and we will be required to make development milestone payments and royalty payments in connection with the sale of products developed under these agreements. As the achievement and timing of these future milestone payments are not probable or estimable, such amounts have not been included in our unaudited condensed consolidated financial statements as of and for the six months ended June 30, 2020 and June 30, 2019 and consolidated financial statements as of and for the years ended December 31, 2019, 2018 and 2017, or in the contractual obligations table above. For additional information regarding certain of our license and collaboration agreements, see “—License and Collaboration Agreements” above.

We also enter into contracts in the normal course of business with CROs, contract manufacturing organizations and other third parties for clinical trials, preclinical research studies and testing and manufacturing services. These contracts are cancellable by us upon prior written notice. Payments due upon cancellation consist only of payments for services provided or expenses incurred, including noncancellable obligations of our service providers, up to the date of cancellation. These payments are not included in the preceding table as the amount and timing of such payments are not known.

G. SAFE HARBOR

This registration statement contains forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act and as defined in the Private Securities Litigation Reform Act of 1995. See “Special Note with Respect to Forward Looking Statements” included elsewhere in this registration statement.

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ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. DIRECTORS AND SENIOR MANAGEMENT

For information about our directors and senior management, see “Item 1A. Identity of Directors, Senior Management and Advisers – Directors and Senior Management.”

B. COMPENSATION

Executive Compensation

For the year ended December 31, 2019, we paid an aggregate of \$4.94 million in cash compensation and benefits to our executive officers, including those who serve as directors. For the year ended December 31, 2019, we paid an aggregate of \$0.2 million for pension, retirement and similar benefits for our executive officers.

The following table sets forth information regarding compensation awarded to, earned by or paid to our Chief Executive Officer and Chief Operating Officer during 2019.

<u>NAME AND PRINCIPAL POSITION</u>	<u>YEAR</u>	<u>SALARY (\$)</u>	<u>BONUS (\$)</u>	<u>STOCK AWARDS (\$)(1)</u>	<u>ALL OTHER COMPENSATION (\$)(2)</u>	<u>TOTAL (\$)</u>
Daphne Zohar <i>Chief Executive Officer</i>	2019	601,960	601,960	2,101,401	33,536	3,338,857
Stephen Muniz, J.D. <i>Chief Operating Officer</i>	2019	421,057	421,057	730,148	32,123	1,604,384

- (1) The amounts reported in the “Stock Awards” column reflects the aggregate grant date fair value of share-based compensation awarded during the year computed in accordance with the provisions of International Financial Reporting Standards (IASB), or IFRS 2, Share-Based Payment, based on maximum performance. See Notes 1 and 8 to our financial statements appearing at the end of this registration statement regarding assumptions underlying the valuation of equity awards.
- (2) Amounts reflect Company matching contributions to our 401(k) plan; medical, dental and disability insurance; and parking reimbursement.

Outstanding Equity Awards at 2019 Year End

The following table sets forth information regarding outstanding equity awards held by our executive officers as of December 31, 2019:

<u>NAME</u>	<u>NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS EXERCISABLE (#)</u>	<u>NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS UNEXERCISABLE (#)</u>	<u>OPTION EXERCISE PRICE (£/SHARE)</u>	<u>OPTION EXPIRATION DATE</u>	<u>EQUITY INCENTIVE PLAN AWARDS: NUMBER OF UNEARNED SHARES, UNITS OR OTHER RIGHTS THAT HAVE NOT VESTED (#)</u>	<u>EQUITY INCENTIVE PLAN AWARDS: MARKET OR PAYOUT VALUE OF UNEARNED SHARES, UNITS OR OTHER RIGHTS THAT HAVE NOT VESTED (\$)(1)</u>
Daphne Zohar	—	—	—	—	1,362,393(2)	5,726,710
	—	—	—	—	1,035,628(3)	4,353,179
	—	—	—	—	644,668(4)	2,709,810
Stephen Muniz, J.D.	—	—	—	—	455,039(2)	1,912,720
	—	—	—	—	346,644(3)	1,457,090
	—	—	—	—	223,995(4)	941,545

- (1) Market value as of December 31, 2019 is based on the closing price of our ordinary shares on December 31, 2019 of £3.17 per share, at the conversion rate on such date of 1 GBP to 1.326 USD.

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- (2) These restricted stock unit awards were granted on May 19, 2017 and vest based on the achievement of the following performance conditions over the performance period of January 1, 2017 to December 31, 2019: 50 percent of the shares underlying the award will vest based on growth in TSR, 25 percent of the shares underlying the award will vest based on growth in NAV, and 25 percent of the shares underlying the award will vest based on the achievement of strategic objectives.
- (3) These restricted stock unit awards were granted on June 15, 2018 and vest based on the achievement of the following performance conditions over the performance period of January 1, 2018 to December 31, 2020: 50 percent of the shares underlying the award will vest based on growth in TSR, 12.5 percent of the shares underlying the award will vest based on relative TSR against the FTSE SmallCap Index (excluding Investment Trusts), 12.5 percent of the shares underlying the award will vest based on relative TSR against the MSCI Europe Health Care Index, and 25 percent of the shares underlying the award will vest based on the achievement of strategic objectives.
- (4) These restricted stock unit awards were granted on December 20, 2019 and vest based on the achievement of the following performance conditions over the performance period of January 1, 2019 to December 31, 2021: 50 percent of the shares underlying the award will vest based on growth in TSR, 12.5 percent of the shares underlying the award will vest based on relative TSR against the FTSE 250 Index, 12.5 percent of the shares underlying the award will vest based on relative TSR against the MSCI Europe Health Care Index, and 25 percent of the shares underlying the award will vest based on the achievement of strategic objectives.

Employment Arrangements

We have entered into employment offer letters with each of our executive officers. Except as noted below, these employment arrangements provide for “at will” employment.

Daphne Zohar

We entered into an amended and restated employment offer letter with Ms. Zohar in June 2015. Such offer letter provides for an annual base salary and an annual performance bonus equal to 50 percent of her base salary at target and 100 percent of her base salary at maximum performance.

In the event Ms. Zohar’s employment is terminated by us without cause or she resigns for good reason (as each such term is defined in her employment offer letter), she shall be entitled to receive salary continuation for the 365-day period following the termination of her employment, subject to her execution of a release of claims in favor of us. Ms. Zohar must provide us with six months’ notice of any resignation of her employment without good reason, provided that we may elect to have her cease providing active services during such period and continue to pay her base salary and benefits during such period.

Ms. Zohar is also subject to a 12-month non-competition and non-solicitation agreement.

Stephen Muniz

We entered into an amended and restated employment offer letter with Mr. Muniz in June 2015. Such offer letter provides for an annual base salary and an annual performance bonus equal to 50 percent of his base salary at target and 100 percent of his base salary at maximum performance.

In the event Mr. Muniz’s employment is terminated by us without cause or he resigns for good reason (as each such term is defined in his employment offer letter), he shall be entitled to receive salary continuation for the 365-day period following the termination of his employment, subject to his execution of a release of claims in favor of us (provided that the Remuneration Committee may elect to reduce such severance period to a period of not less than 60 days if the period applicable to Mr. Muniz’s non-competition and non-solicitation restrictions are similarly reduced). In addition, Mr. Muniz must provide us with 60 days’ notice of any resignation of his employment without good reason, provided that we may elect to have Mr. Muniz cease providing active services during such period and continue to pay him his base salary and benefits during such period.

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Mr. Muniz is also subject to a 12-month non-competition and non-solicitation agreement, subject to reduction as described above.

Share Option and Other Compensation Plans

Performance Share Plan

In June 2015, we adopted the Performance Share Plan, or PSP. Participation in the PSP is open to the Executive Directors, senior managers and employees of, and other individuals providing services to, the Company and its subsidiaries. Awards may be granted in the form of share options, share appreciation rights, restricted or unrestricted share awards, restricted share units and other share-based awards.

Under the PSP, (i) in any ten year period, awards in respect of an aggregate of 10 percent of the company's ordinary share capital from time to time may be subject to awards granted under the PSP (and any other share plan operated by the Company), (ii) in any ten year period, no more than 5 percent of the Company's ordinary share capital from time to time may be granted under awards under the PSP (and any other share plan operated by the Company) to the Company's directors, executive officers, senior managers or senior service providers and (iii) no more than 22,724,800 ordinary shares may be issued pursuant to incentive stock options. Shares which are subject to awards which lapse or are released, cancelled or surrendered, or which were granted pursuant to other share plans operated by the Company prior to its original initial public offering on the London Stock Exchange are not counted for purposes of these limits.

The maximum total market value of shares in which an award may be granted to any grantee in any fiscal year may not exceed 400 percent of his or her annual base salary for such year (or for the preceding year, if higher).

Our remuneration committee has acted as administrator of the PSP. The administrator has full power to select, from among the individuals eligible for awards, the individuals to whom awards will be granted, and to determine the specific terms and conditions of each award, subject to the provisions of our PSP Plan. Vesting of awards may be tied to achievement of performance or other conditions.

The PSP permits the granting of (1) options to purchase ordinary shares intended to qualify as incentive stock options under Section 422 of the Code and (2) options that do not so qualify. The option exercise price of each option is determined by the administrator but may not be less than 100 percent of the fair market value of the ordinary shares on the date of grant in the case of incentive stock options and, in the case of nonqualified options, may be less than fair market value of the ordinary shares to the extent compliant with Section 409A of the Code. The administrator determines at what time or times each option may be exercised.

The PSP permits the award of share appreciation rights subject to such conditions and restrictions as it may determine. Share appreciation rights entitle the recipient to ordinary shares or a cash payment equal to the value of the appreciation in our share price over the exercise price. The exercise price may not be less than 100 percent of the fair market value of our ordinary shares on the date of grant. The term of each share appreciation right will be fixed by the administrator but may not exceed ten years from the date of grant. The administrator will determine at what time or times each share appreciation right may be exercised.

The PSP permits the award of restricted ordinary shares and restricted share units to participants subject to such conditions and restrictions as it may determine. These conditions and restrictions may include the achievement of certain pre-established performance goals and/or continued employment with us through a specified period. The PSP also permits the award of other share-based awards in such amounts, on such terms and conditions, and for such consideration as the administrator shall determine.

If there is a change of control of the Company (or certain other corporate events) the number of ordinary shares over which awards will vest will normally be calculated by reference to the extent to which the performance conditions applicable to those awards have been satisfied and the time elapsed to the change of control event. Our remuneration committee has discretion not to apply time pro-rating.

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Where appropriate, and with the consent of the acquiring company, participants may exchange awards so as to operate over shares in the acquiring company.

On the occurrence of any demerger, reorganization, reconstruction or amalgamation, distribution or other transaction of the Company which in the reasonable opinion of our remuneration committee may affect the value of any award, awards may be varied so as to preserve the overall value of the award. Such alteration may include amending the performance condition and/or the terms on which an award vests, and may provide for immediate vesting on such event.

No awards may be granted under the PSP after the date that is ten years from its approval by our shareholders.

Annual Bonus Plan

Our annual bonus program is intended to drive and reward our executive officers for meeting individual and/or corporate performance goals for a fiscal year. Annual bonuses will be payable in cash, and may range between 50 percent of base salary for the achievement of “target” goals and objectives and up to 100 percent of base salary for the achievement of “stretch” goals and objectives. For 2019, bonus targets were focused on (i) financial and strategic goals designed to incentivize the team to complete important deals, execute strategic partnerships and operate within our 2019 budget, (ii) clinical development goals designed to incentivize the team to generate valuable clinical data in support of our programs, (iii) innovation goals designed to incentivize the team to create innovative programs, obtain patent protection for our technologies, obtain publication of the technologies in top tier medical and science journals and establish state of the art laboratory and operations teams, and (iv) commercial goals designed to incentivize the team to take all steps necessary to commercially launch products. The executives’ stretch goals for 2019 involved raising capital and entering into business development transactions.

401(k) Retirement Plan

We sponsor a 401(k) retirement plan which is intended to be a tax-qualified defined contribution plan under Section 401(k) of the Internal Revenue Code. In general, all of our employees are eligible to participate, beginning two months after the commencement of their employment. The 401(k) plan includes a salary deferral arrangement pursuant to which participants may elect to reduce their current compensation by up to the statutorily prescribed limit and have the amount of the reduction contributed to the 401(k) plan. We currently contribute to each employee’s 401(k) account, in the first quarter of each year, 3 percent of his or her eligible earnings from the prior year up to the statutorily prescribed limit.

Limitations on Liability and Indemnification

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers or controlling persons, we have been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Rule 10b5-1 Sales Plans

Our directors and executive officers may adopt written plans, known as Rule 10b5-1 plans, in which they will contract with a broker to buy or sell our ordinary shares on a periodic basis. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the director or officer when entering into the plan, without further direction from the director or officer. The director or officer may amend or terminate the plan in some circumstances. Our directors and executive officers may also buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material, nonpublic information.

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NON-EMPLOYEE DIRECTOR COMPENSATION

The following table sets forth information regarding compensation earned by our non-employee directors during the year ended December 31, 2019. We also reimburse non-employee members of our board of directors for reasonable travel expenses. The compensation of our Chief Executive Officer and our Chief Operating Officer are discussed above in “Compensation of Executive Officers and Directors.”

<u>NAME</u>	<u>FEES EARNED OR PAID IN CASH(\$)</u>	<u>TOTAL(\$)</u>
Joichi Ito (1)	89,285	89,285
Raju Kucherlapati, Ph.D.	95,000	95,000
John LaMattina, M.D.	105,000	105,000
Robert Langer, Sc.D. (2)	245,000	245,000
Dame Marjorie Scardino	90,000	90,000
Bennett Shapiro, M.D.	95,000	95,000
Christopher Viehbacher	107,074	107,074

(1) Mr. Ito resigned from our board of directors in September 2019.

(2) Dr. Langer provides certain intellectual property know how and technology transfer services to Alivio and Entrega related to certain know how underlying their programs, for which he was paid an aggregate of approximately \$140,000 in the year ended December 31, 2019.

Non-Employee Director Compensation Policy

We currently pay directors in accordance with the following non-employee director compensation policy. Such amounts are subject to annual adjustment, as determined by the Remuneration Committee.

Each non-employee director is paid an annual retainer of \$75,000 for their services on our board of directors, and the non-executive chair of the board of directors receives an extra \$50,000 for his contributions in leading our board of directors.

Our non-employee directors also receive \$5,000 annually if they serve on a committee of our board of directors, and \$10,000 annually if they chair the committee. Additionally, non-employee directors may receive an additional retainer of up to \$20,000 per year for service on the board of one of our Founded Entities. While these payments are initially made by us, we are reimbursed by the Founded Entity for such payments. Such cash retainers are paid quarterly, and may be pro-rated based on the number of actual days served by the director during such calendar quarter.

The amounts above also include fees for advisory services provided by certain of the directors to us beyond the typical duties of a director.

C. BOARD PRACTICES

Board Composition

Our board of directors currently consists of seven members: the non-executive chairman, four additional non-executive directors and two executive directors.

As a foreign private issuer, under the listing requirements and rules of the Nasdaq Global Market, we are not required to have independent directors on our board of directors, except that our audit committee is required to consist fully of independent directors, subject to certain phase-in schedules. However, our board of directors has determined that Christopher Viehbacher, Dame Marjorie Scardino, Raju Kucherlapati, John LaMattina and Robert Langer do not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of director and that each of these directors is “independent” as that term is defined under Nasdaq rules. There are no family relationships among any of our directors or senior management.

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Corporate Governance and Committees of the Board

Corporate Governance

Our board of directors is responsible for overall corporate governance and for supervising the general affairs and business of our company and its subsidiaries. As a company listed on the main market of the London Stock Exchange, we are subject to the continuing requirements of the Listing Rules as published by the Financial Conduct Authority in the United Kingdom from time to time. Our board of directors also adheres to the principles of the U.K. Corporate Governance Code in such respects as it considers appropriate for our size and the nature of our business.

Our board of directors is responsible for creating value for shareholders, providing entrepreneurial and scientific leadership, approving our strategic objectives, ensuring that the necessary financial and human resources are in place to meet strategic objectives, overseeing our system of risk management and setting the values and standards for both our business conduct and governance matters. All key operational and investment decisions are subject to board approval.

There is a clear separation of the roles of chief executive officer and non-executive chairman. The chairman is responsible for the leadership and conduct of the board of directors and for ensuring effective communication with shareholders. The chief executive officer is responsible for leading the execution of our strategy and the executive management of the company.

All of our directors are subject to election by shareholders at the first annual general meeting after their appointment to our board of directors. Our board of directors has also adopted a policy that all directors will seek annual re-election by shareholders. The appointment of each of the non-executive directors is therefore subject to re-election at our 2021 annual general meeting.

Other Corporate Governance Matters

The Sarbanes-Oxley Act of 2002, as well as related rules subsequently implemented by the SEC, requires foreign private issuers, including our company, to comply with various corporate governance practices. In addition, Nasdaq rules provide that foreign private issuers may follow home country practice in lieu of the Nasdaq corporate governance standards, subject to certain exceptions and except to the extent that such exemptions would be contrary to U.S. federal securities laws. The home country practices followed by us in lieu of Nasdaq rules are described below:

- We do not intend to follow Nasdaq's quorum requirements applicable to meetings of shareholders. Such quorum requirements are not required under U.K. law. In accordance with generally accepted business practice, our articles of association provide alternative quorum requirements that are generally applicable to meetings of shareholders.
- We do not intend to follow Nasdaq's requirements that non-management directors meet on a regular basis without management present. Our board of directors may choose to meet in executive session at their discretion.

We intend to take all actions necessary for us to maintain compliance as a foreign private issuer under the applicable corporate governance requirements of the Sarbanes-Oxley Act of 2002, the rules adopted by the SEC and Nasdaq's listing standards.

Because we are a foreign private issuer, our directors and senior management are not subject to short-swing profit and insider trading reporting obligations under Section 16 of the U.S. Securities Exchange Act of 1934, as amended, or the Exchange Act. They will, however, be subject to the obligations to report changes in share ownership under Section 13 of the Exchange Act and related SEC rules.

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Committees of the Board

Our board of directors has established an audit committee, a nomination committee and a remuneration committee. Each of these committees operates under a charter that has been approved by our board of directors.

Audit Committee

The members of our audit committee are Mr. Viehbacher, Dr. Kucherlapati and Dame Scardino. Mr. Viehbacher is the chair of the audit committee. Our audit committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence, objectivity and effectiveness of our registered public accounting firm;
- overseeing the work of our independent registered public accounting firm, including through the receipt and consideration of reports from that firm;
- monitoring the integrity of our financial statements by reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures;
- reviewing and monitoring our internal control over financial reporting, disclosure controls and procedures and code of business conduct;
- reviewing and monitoring the effectiveness of our internal audit function;
- overseeing our risk assessment and risk management policies;
- establishing policies regarding procedures for the receipt and retention of accounting related complaints and concerns;
- meeting independently with our internal auditing staff, if any, our independent registered public accounting firm and management; and
- reviewing and approving or ratifying any related person transactions.

All audit and non-audit services, other than *de minimis* non-audit services, to be provided to us by our independent registered public accounting firm must be approved in advance by our audit committee.

Our board of directors has determined that Mr. Viehbacher is an "audit committee financial expert" as defined in Item 16A of Form 20-F.

In order to satisfy the independence criteria for audit committee members set forth in Rule 10A-3 under the Exchange Act, each member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other board committee, accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries or otherwise be an affiliated person of the listed company or any of its subsidiaries. We believe that the composition of our audit committee will meet the requirements for independence under current Nasdaq and SEC rules and regulations.

Remuneration Committee

The members of our remuneration committee are Dr. Kucherlapati and Dr. LaMattina. Dr. LaMattina is the chair of the remuneration committee. Our remuneration committee's responsibilities include:

- reviewing and approving, or making recommendations to our board of directors with respect to, the compensation of our directors and executive management;
- overseeing an evaluation of our executive management; and

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- overseeing and administering our employee share option scheme or equity incentive plans in operation from time to time.

In order to satisfy the independence criteria for remuneration committee members set forth in Rule 10C-1 under the Exchange Act, all factors specifically relevant to determining whether a director has a relationship to such company which is material to that director's ability to be independent from management in connection with the duties of a remuneration committee member must be considered, including, but not limited to: (1) the source of compensation of the director, including any consulting advisory or other compensatory fee paid by such company to the director; and (2) whether the director is affiliated with the company or any of its subsidiaries or affiliates. We believe the composition of our remuneration committee will meet the requirements for independence under current Nasdaq and SEC rules and regulations.

Nomination Committee

The members of our nomination committee are Dr. Langer and Dame Scardino. Dame Scardino is the chair of the nomination committee. Our nomination committee's responsibilities include:

- identifying individuals qualified to become members of our board of directors;
- recommending to our board of directors the persons to be nominated for election as directors and to each of our board of directors' committees;
- overseeing a periodic evaluation of our board of directors;
- reviewing and making recommendations to our board of directors with respect to our board leadership structure;
- reviewing and making recommendations to our board of directors with respect to management succession planning; and
- developing and recommending to our board of directors corporate governance principles.

Compensation Committee Interlocks and Insider Participation

None of our executive officers serves, or in the past year has served, as a member of the board of directors or compensation committee, or other committee serving an equivalent function, of any other entity that has one or more of its executive officers serving as a member of our board of directors or our compensation committee. None of the members of our compensation committee is, or has ever been, an officer or employee of our company.

D. EMPLOYEES

As of June 30, 2020, we had 61 full-time PureTech employees. 60 of our employees are based in the United States and one employee is based in the Netherlands. All of our employees were engaged in administrative, management or research and development functions. These figures do not include individuals employed by our Founded Entities. One PureTech employee splits his time and work at our Controlled Founded Entity Entrega. None of our employees is subject to a collective bargaining agreement or represented by a trade or labor union. We consider our relationship with our employees to be good.

E. SHARE OWNERSHIP

For information regarding the share ownership of our directors and management, see "Item 6.B.—Compensation" and "Item 7.A.—Major Shareholders".

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ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

A. MAJOR SHAREHOLDERS

The following table sets forth information with respect to the beneficial ownership of our ordinary shares as of by:

- each of our directors;
- each of our executive officers; and
- each person, or group of affiliated persons, who is known by us to beneficially own more than 3 percent of our outstanding ordinary shares.

The column entitled “Percentage of Shares Beneficially Owned” is based on a total of _____ ordinary shares outstanding as of _____.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC and includes voting or investment power with respect to our common stock. Ordinary shares subject to options that are currently exercisable or exercisable within 60 days after _____ are considered outstanding and beneficially owned by the person holding the options for the purpose of calculating the percentage ownership of that person but not for the purpose of calculating the percentage ownership of any other person. Except as otherwise noted, the persons and entities in this table have sole voting and investment power with respect to all of the ordinary shares beneficially owned by them, subject to community property laws, where applicable. Except as otherwise set forth below, the address of the beneficial owner is c/o PureTech Health, 6 Tide Street, Suite 400, Boston, Massachusetts 02210. The information in the table below is based on information known to us or ascertained by us from public filings made by the shareholders. We have also set forth below information known to us regarding any significant change in the percentage ownership of our ordinary shares by any major shareholders during the past three years. The major shareholders listed below do not have voting rights with respect to their ordinary shares that are different from the voting rights of other holders of our ordinary shares.

<u>NAME OF BENEFICIAL OWNER</u>	<u>PERCENTAGE OF SHARES BENEFICIALLY OWNED</u>
<i>3 Percent Stockholders</i>	
Invesco Asset Management Limited (1)	
Baillie Gifford & Co (3)	
Lansdowne Partners Limited (2)	
Jupiter Asset Management Limited (4)	
Recordati S.p.A. (5)	
<i>Executive Officers and Directors</i>	
Daphne Zohar (6)	
Stephen Muniz, J.D.	
Raju Kucherlapati, Ph.D.	
John LaMattina, Ph.D.	
Robert Langer, Sc.D.	
Marjorie Scardino	
Christopher Viehbacher (7)	

- * Represents beneficial ownership of less than 1 percent of our outstanding ordinary shares.
- (1) Consists of _____ shares beneficially held. The address for Invesco Asset Management Limited is c/o 43-45 Portman Square, London W1H 6LY, United Kingdom.
- (2) Consists of _____ shares beneficially held. The address for Lansdowne Partners Limited is c/o 15 Davies Street, London W1K 3AG, United Kingdom.
- (3) Consists of _____ shares beneficially held. The address for Baillie Gifford & Co. is c/o Calton Square, 1 Greenside Row, Edinburgh EH1 3AN, United Kingdom.

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- (4) Consists of shares beneficially held. The address for Jupiter Asset Management Limited is c/o 70 Victoria Street, London SW1E 65Q, United Kingdom.
- (5) Consists of shares beneficially held. The address for Recordati S.p.A. is c/o Via Civitali, 1, 20148 Milano, Italy.
- (6) Consists of ordinary shares held by the Zohar Family Trust I, a US-established trust of which Ms. Zohar is a beneficiary and trustee
 - (ii) ordinary shares held by the Zohar Family Trust II, a U.S. established trust of which Ms. Zohar is a beneficiary (in the event of her spouse's death) and trustee;
 - (iii) ordinary shares held by Zohar LLC, a US-established limited liability company and
 - (iv) ordinary shares held directly by Ms. Zohar. Ms. Zohar owns or has a beneficial interest in 100 percent of the share capital of Zohar LLC.
- (7) All of Mr. Viehbacher's shareholding in the Company is held through his trust, Viehbacher 2015 GRAT u/a/d 22 May 2015.

To our knowledge, and other than changes in percentage ownership as a result of the shares issued in connection with our initial public offering in the United Kingdom, there has been no significant change in the percentage ownership held by the major shareholders listed above in the last three years, except as described in "Related Party Transactions" included in this registration statement.

We are not aware that the Company is directly owned or controlled by another corporation, any foreign government or any other natural or legal person(s) severally or jointly. We are not aware of any arrangement, the operation of which may result in a change of control of the Company.

B. RELATED PARTY TRANSACTIONS

The following is a description of related party transactions we have entered into with the beneficial owners of 3 percent or more of our ordinary shares, which are our only voting securities, senior management and members of our board of directors, since January 1, 2017.

Agreements with Our Executive Officers and Directors

We have entered into employment agreements with our executive officers and director compensation agreements with our non-executive directors. See "Compensation of Executive Officers and Directors." These agreements contain customary provisions and representations, including confidentiality, non-competition and non-solicitation undertakings by the executive officers. However, the enforceability of the non-competition provisions may be limited under applicable law.

Invesco Relationship Agreement

In June 2015, we entered into a Relationship Agreement with Invesco Asset Management Limited, or Invesco, which came into force at the time our initial public offering in the United Kingdom. The principal purpose of the Relationship Agreement is to ensure that the Company is capable at all times of carrying on its business independently of Invesco. If any person acquires control of our Company or we cease to be admitted to the Official List, the Relationship Agreement may be terminated by Invesco. If Invesco, together with its associates, ceases to hold 30 percent or more of the voting rights over our shares, the Relationship Agreement will terminate save for certain specified provisions.

The Relationship Agreement provides that Invesco undertakes to use all reasonable endeavors to procure that its associates and any person with whom it is acting in concert shall:

- conduct all agreements, arrangements, transactions and relationships with any member of the Company on an arm's length basis and on a normal commercial basis and in accordance with the related party transaction requirements of Chapter 11 of the Listing Rules;

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- not take any action that would have the effect of preventing us from complying with our obligations under the Listing Rules of the Financial Conduct Authority or precluding or inhibiting us or any of our Founded Entities and other affiliates from carrying on its business independently of Invesco, its associates and any person with whom it is acting in concert;
- not propose or procure the proposal of a shareholder resolution which is intended to, or appears to be intended to, circumvent the proper application of the Listing Rules of the Financial Conduct Authority; and
- not exercise any of its voting rights attaching to the shares held by it to procure any amendment to our Articles of Association of which would be inconsistent with, undermine or breach any of the provisions of the Relationship Agreement.

The terms of the Relationship Agreement enable us to carry on our business independently from Invesco and its affiliates, and ensure that all transactions and relationships between us and Invesco are, and will be, at arm's length and on a normal commercial basis.

resTORbio Series A Financing

From March 2017 to October 2017, resTORbio issued and sold shares of its Series A preferred stock for aggregate proceeds of approximately \$30.0 million. PureTech Health LLC participated in such financing and invested \$5.5 million in March 2017, \$4.5 million in August 2017 and \$9.0 million in October 2017. Our executive officer Bharatt Chowrira was elected to the board of directors of resTORbio in connection with this financing, but he was not compensated by us for his services on the board of directors.

Karuna Convertible Promissory Notes

In August 2017, Karuna issued a convertible promissory note, or the Initial August 2017 Note, to PureTech Health LLC in the principal amount of \$345,819. On the same date, Karuna issued a second convertible promissory note, or the Second August 2017 Note, and together with the Initial August 2017 Note, the 2017 Notes, to PureTech Health LLC in the principal amount of up to \$6.5 million. The Second August 2017 Note was payable in installments, with \$3.5 million of the note drawn down upon execution of the note and an additional \$3.0 million drawn down upon Karuna's receipt of permission from the FDA to dose a second cohort in its Phase 2 clinical trial and confirmation that a material adverse event had not occurred. This second draw down occurred in January 2018. In June 2018, Karuna issued an additional convertible promissory note to PureTech Health LLC in the principal amount of \$4.0 million, or the 2018 Note. The 2017 Notes and the 2018 Note accrued interest at a rate of 10 percent per year. The 2017 Notes converted at a 25 percent discount in Karuna's Series A preferred stock financing, as further described below, and the 2018 Notes converted at no discount. Our executive officers Bharatt Chowrira, Eric Elenko, and Stephen Muniz were the board of directors of Karuna at the time of this financing, but they were not compensated by us for their services on the board of directors.

Entrega Series A-2 Financing

In December 2017, Entrega issued and sold Series A-2 preferred stock for aggregate proceeds of \$11.0 million. Approximately \$8.4 million of outstanding principal and interest on convertible promissory notes issued by Entrega to PureTech Health LLC converted into Series A-2 preferred stock in this financing in accordance with their terms. Our directors Robert Langer and Stephen Muniz were on the board of directors of Entrega at the time of the financing but they were not compensated by us for their services on the board of directors.

resTORbio Initial Public Offering

In January 2018, resTORbio closed its initial public offering of 6,516,667 shares of common stock at a public offering price of \$15.00 per share, which included the exercise in full by the underwriters of their option to

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purchase up to 850,000 additional shares. The gross proceeds from the offering were \$97.8 million, before deducting underwriting discounts and commissions and estimated offering expenses. PureTech Health LLC purchased 233,333 shares of resTORbio's common stock in the offering for an aggregate purchase price of \$3.5 million. Daphne Zohar, our executive officer and director, was a member of resTORbio's board of directors at the time of the offering, but she was not compensated by us for her services on the board of directors.

Gelesis Financing

In February 2018, Gelesis issued and sold shares of preferred stock for aggregate proceeds of approximately \$30 million. PureTech Health LLC invested \$5 million in the financing. Our directors Raju Kucheralapati, John LaMattina and Stephen Muniz were members of the board of directors at the time of this financing, but they were not compensated by us for their services on the board of directors.

UK Offering

In April 2018, we completed an offering in which we issued 45,000,000 ordinary shares at 160 pence per share, which were admitted to the premium listing segment of the Official List of the Financial Conduct Authority and are trading on the main market for listed securities of the London Stock Exchange plc. The placing represented a discount of approximately 3.0 percent to the closing price of the Company's ordinary shares on March 12, 2018. We received gross proceeds of £72 million, or \$101.2 million, in the offering.

The following table sets forth the aggregate cash purchase price of the ordinary shares purchased by our 5 percent stockholders and their affiliates and the number of ordinary shares issued in consideration of such amounts.

<u>NAME</u>	<u>CASH PURCHASE PRICE (GBP)</u>	<u>NUMBER OF ORDINARY SHARES</u>
Invesco Asset Management Limited	£ 22,984,000	14,365,000
Lansdowne Partners Limited	£ 7,194,101	4,496,313
Baillie Gifford & Co	£ 8,000,000	5,000,000
Jupiter Asset Management	£ 4,500,000	2,812,500
Total	£ 42,678,101	26,673,813

Karuna Series A Financing

In August 2018, Karuna issued and sold Series A preferred stock for aggregate proceeds of approximately \$42.1 million. PureTech Health LLC participated in the financing and invested \$4.0 million. Additionally, approximately \$8.1 million of outstanding principal and interest on convertible promissory notes issued by Karuna to PureTech Health LLC, including the 2017 Notes, converted into Series A preferred stock in this financing in accordance with their terms. Our executive officers Stephen Muniz, Eric Elenko and Bharatt Chowrira were on Karuna's board of directors at the time of the financing but they were not compensated by us for their services on the board.

Vedanta Series C Financing

In December 2018 and May 2019, Vedanta Biosciences, Inc., or Vedanta, issued and sold shares of Series C preferred stock for aggregate proceeds of approximately \$45.5 million. PureTech invested \$5.0 million in this financing. Our directors John LaMattina and Christopher Viehbach and our executive officer Bharatt Chowrira were on the board of directors of Vedanta at the time of the financing but they were not compensated by us for their services on the board.

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Vor Series A-2 Financing

In February 2019, Vor issued and sold shares of Series A-2 preferred stock for aggregate proceeds of approximately \$25.1 million. PureTech Health LLC participated in such offering and invested \$0.6 million. Additionally, approximately \$7.4 million of outstanding principal and interest on convertible promissory notes issued by Vor to PureTech Health LLC converted into Series A-2 preferred stock in this financing in accordance with their terms. In February 2020, Vor, issued and sold shares of Series A-2 preferred stock for aggregate proceeds of approximately \$17.8 million. PureTech Health LLC participated in such offering and invested \$0.7 million. Our executive officer Bharatt Chowrira was on Vor's board of directors at the time of the financings but he was not compensated by us for his services on the board.

Karuna Series B Financing

In March and April 2019, Karuna issued and sold shares of Series B preferred stock for aggregate proceeds of approximately \$82.1 million. PureTech Health LLC invested approximately \$5.0 million in the financing. Our executive officers Stephen Muniz, Eric Elenko and Bharatt Chowrira were on Karuna's board of directors at the time of the financing but they were not compensated by us for their services on the board.

Sonde Series A-2 Financing

In April 2019, Sonde issued and sold shares of Series A-2 preferred stock for aggregate proceeds of \$11.0 million. Approximately \$5.8 million of outstanding principal and interest on convertible promissory notes issued by Sonde to PureTech converted into Series A-2 preferred stock in this financing in accordance with their terms. In August 2019, Sonde sold an additional 1,052,632 shares of its Series A-2 preferred stock for aggregate proceeds of \$2.0 million. In January 2020 and April 2020, Sonde sold additional shares of Series A-2 preferred stock for aggregate proceeds of \$4.8 million. Our executive officer Eric Elenko was on the board of directors of Sonde at the time of each of these financings, our executive officer Daphne Zohar was on the on the board of directors of Sonde at the time of the April 2019 closing and our executive officer Joep Muijers was on the board of directors of Sonde at the time of the August 2019 closing and both 2020 closings, but they were not compensated by us for their services on the board.

Gelesis Issuance of Convertible Promissory Notes

In August 2019, Gelesis issued a convertible note, or the Gelesis Note, to us in the principal amount of up to \$6.5 million. The Gelesis Note was payable in installments, with \$2.0 million of the note drawn down upon execution of the note and an additional \$3.3 million and \$1.2 million drawn down on October 7, 2019 and November 5, 2019, respectively. Our director Raju Kucherlapati was a member of Gelesis's board of directors at the time the Gelesis Note was issued, but he was not compensated by us for his services on the board.

Gelesis Series 3 Growth Preferred Stock Financing

In December 2019, Gelesis issued 2,973,270 shares of its Series 3 Growth Preferred Stock for aggregate proceeds of \$50.1 million, including approximately \$10.9 million of outstanding principal and interest on convertible promissory notes issued by Gelesis, including the Gelesis Note, which converted into Series 3 Growth Preferred Stock in this financing in accordance with their terms. In addition to the 422,443 shares of Series 3 Growth Preferred Stock issued to us upon conversion of the Gelesis Note, we also purchased 464,389 shares of Series 3 Growth Preferred Stock for an aggregate purchase price of \$8.0 million. In April 2020, Gelesis issued 818,990 shares of its Series 3 Growth Preferred Stock for aggregate proceeds of \$14.1 million, of which we purchased 579,038 shares of Series 3 Growth Preferred Stock for an aggregate purchase price of \$10.0 million. In June 2020 and August 2020, Gelesis issued 2,316,154 shares of its Series 3 Growth Preferred Stock for aggregate proceeds of \$40.0 million. Our director Raju Kucherlapati was a member of Gelesis's board of directors at the time of the financing, but he was not compensated by us for his services on the board.

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Follica A-3 Preferred Stock Note Conversion Agreement

In July 2019, \$18.0 million in combined principal and interest of Follica's convertible debt converted into 17,639,204 shares of Follica's Series A-3 Preferred Stock and 14,200,044 shares of Follica's common stock pursuant to a Series A-3 Note Conversion Agreement between Follica and the noteholders. We held \$15.5 million of the converted \$18.0 million in principal and interest. Our executive officers and board members Daphne Zohar and Stephen Muniz as well as our executive officer Joep Muijers were on Follica's board of directors at the time of the financing, but they were not compensated by us for their services on the board.

Vedanta Series C-2 Financing

In September 2019 and May 2020, Vedanta issued and sold shares of Series C-2 preferred stock for aggregate proceeds of approximately \$25.7 million. Our directors John LaMattina and Christopher Viehbacher as well as our executive officer Bharatt Chowrira were on the board of directors of Vedanta at the time of the financing, but they were not compensated by us for their services on the board.

Vor Series B Preferred Stock Financing

In June 2020, Vor Biopharma Inc., or Vor, issued and sold shares of Series B preferred stock for aggregate proceeds of approximately \$64.7 million. PureTech Health LLC participated in such offering and invested \$0.5 million. Our executive officer Bharatt Chowrira was on Vor's board of directors at the time of the financings, but he was not compensated by us for his services on the board.

Vedanta Issuance of Secured Promissory Note

In September 2020, Vedanta issued a secured promissory note, or the Vedanta Note, to Oxford Finance LLC in the principal amount of \$15.0 million. The Vedanta Note is secured by Vedanta's intellectual property, inventory and equipment. Our directors John LaMattina and Christopher Viehbacher as well as our executive Bharatt Chowrira were on the board of directors of Vedanta at the time of the financing, but they were not compensated by us for their services on the board.

Gelesis Sublease Agreement

In June 2019, we entered into a Sublease Agreement with Gelesis, pursuant to which we agreed to sublease certain office space in Boston, Massachusetts to Gelesis for the remainder of the term of our primary lease. Pursuant to this agreement, Gelesis is responsible for all of our payment obligations under the lease.

Patent License Agreement with Karuna

In March 2011, we entered into an exclusive license agreement, or the Patent License Agreement, with Karuna, pursuant to which we granted Karuna an exclusive license to patents relating to combinations of a muscarinic activator with a muscarinic inhibitor for the treatment of central nervous system disorders. In connection with the Patent License Agreement, Karuna has agreed to make milestone payments to us of up to an aggregate of \$10 million upon the achievement of specified developmental, regulatory and commercial milestones. In addition, Karuna is obligated to pay us low single-digit royalties on the worldwide net sales of any commercialized product covered by the licenses granted under the Patent License Agreement. In the event that Karuna sublicenses any of the patent rights granted under the Patent License Agreement, Karuna will be obligated to pay us royalties within the range of 15 percent to 25 percent on any income Karuna receives from the sublicensee, excluding royalties. Karuna has not paid any fees to us to date pursuant to the Patent License Agreement.

Royalty and Sublicense Income Agreement with Gelesis

We entered into a Royalty and Sublicense Income Agreement with Gelesis, dated December 18, 2009, pursuant to which we are required to provide certain funding, management services and intellectual property relating to

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intellectual property. In exchange, Gelesis is required to pay us a royalty equal to 2 percent of all net product sales and 10 percent of gross sublicense income received on certain food products as a result of developing hydrogel-based products that are covered by a licensed patent that has issued and has not been revoked or abandoned. The royalty rate is subject to customary downward adjustments in the event Gelesis is required to pay third parties to obtain a license to intellectual property rights that are necessary for Gelesis to develop or commercialize our products. There are no milestone payment obligations under this agreement. Management services provided by us include advisory services on corporate strategy, general and administrative support including office space, supplies and administrative support, payroll services and website development and support. Gelesis' obligation to pay royalties to us will terminate on a country-by-country basis upon termination or expiration of the underlying patents. To date, we have not received any royalty payments pursuant to this agreement. We do not direct or control the development and commercialization of the intellectual property sublicensed pursuant to this agreement.

Business Services Agreements

We were party to a business services, personnel and information management agreement with each of Vor, Akili, resTORbio and Karuna until, with respect to Vor and Akili, the date on which we no longer controlled a majority of the equity of such entities, and with respect to resTORbio and Karuna, the date of each such entity's initial public offering. Pursuant to such agreements, we provided each of these entities with strategic medical, clinical and scientific advice, in addition to providing certain operational and administrative resources, and were reimbursed for such services.

Voting and Investors' Rights Agreements

We are party to voting and investors' rights agreements with certain of our Founded Entities as described below:

- We are party to an Amended and Restated Voting Agreement between Vor and certain of its investors, dated June 30, 2020. We held 42,656,404 shares of capital stock as of June 30, 2020, each of which is entitled to one vote and which represents, in the aggregate, 16.4 percent of the outstanding voting stock of Vor.
- Pursuant to an Amended and Restated Investors' Rights Agreement, as amended, between Vedanta and certain of its investors, dated December 21, 2018, we are entitled to designate a total of four directors to Vedanta's board of directors, including (i) two directors for so long as PureTech Health LLC continues to hold a majority of Vedanta's Series A-1 preferred stock, and (ii) two directors for so long as PureTech Health LLC continues to hold a majority of Vedanta's Series B preferred stock. We currently have four designees as members of Vedanta's board of six directors and hold 5,635,020 shares of capital stock as of June 30, 2020, each of which is entitled to one vote and which represents, in the aggregate, 59.9 percent of the outstanding voting stock of Vedanta.
- Pursuant to the Ninth Amended and Restated Stockholders Agreement, as amended, between Gelesis and certain of its stockholders, dated December 5, 2019, we are entitled to designate two directors to Gelesis' board of directors for so long as PureTech Health LLC and its affiliates continue to hold at least 10 percent of Gelesis' capital stock held by PureTech Health LLC on the date of the agreement. We currently have one designee as a member of Gelesis' board of four directors and hold 5,173,142 shares of capital stock as of June 30, 2020, each of which is entitled to one vote and which represents, in the aggregate, 26.2 percent of the outstanding voting stock of Gelesis.
- Pursuant to a Voting Agreement between Sonde and certain of its investors, dated April 9, 2019, we are entitled to designate one director to Sonde's board of directors for so long as PureTech Health LLC and its affiliates continue to hold at least 1,000,000 shares of Sonde's Series A-2 preferred stock. We currently have two designees as members of Sonde's board of five directors and hold 7,074,241 shares of capital stock as of June 30, 2020, each of which is entitled to one vote and which represents, in the aggregate, 52.3 percent of the outstanding voting stock of Sonde.

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- Pursuant to a Voting Agreement between Entrega and certain of its investors, dated December 18, 2017, we are entitled to designate four directors to Entrega's board of directors. We currently have four designees as members of Entrega's board of six directors and hold 6,300,375 shares of capital stock as of June 30, 2020, each of which is entitled to one vote and which represents, in the aggregate, 83.1 percent of the outstanding voting stock of Entrega.
- Pursuant to the Fifth Amended and Restated Voting Agreement between Follica and certain of its investors, dated July 19, 2019, we are entitled to designate one director to Follica's board of directors for so long as PureTech Health LLC and its affiliates continue to own at least 1,000,000 shares of Follica's common stock. We currently have three designees as members of Follica's board of three directors and hold 37,993,501 shares of capital stock as of June 30, 2020, each of which is entitled to one vote and which represents, in the aggregate, 85.4 percent of the outstanding voting stock of Follica.

Agreements with Founded Entities Restricting Sale of Shares in Connection with an Initial Public Offering

We are party to agreements containing market stand-off provisions with certain of our Founded Entities that restrict our ability to sell shares of such Founded Entities for 180 days after their initial public offerings as follows:

- Second Amended and Restated Investors' Rights Agreement between Akili and the investor parties named therein, dated May 8, 2018;
- Fifth Amended and Restated Investors' Rights Agreement between Follica and the investor parties named therein, dated July 19, 2019;
- Amended and Restated Investors' Rights Agreement between Vedanta, as amended, and the investor parties named therein, dated December 21, 2018;
- Investors' Rights Agreement between Entrega and the investor parties named therein, dated December 18, 2017;
- Ninth Amended and Restated Stockholders Agreement between Gelesis and the stockholder parties named therein, dated December 5, 2019;
- Investors' Rights Agreement between Sonde and the investor parties named therein, dated April 9, 2019; and
- Amended and Restated Investors' Rights Agreement between Vor and the investor parties named therein, dated June 30, 2020.

Family Relationships

Our chief executive officer, Daphne Zohar, and Yishai Zohar, the chief executive officer of Gelesis, one of our Non-Controlled Founded Entities, are husband and wife. As of June 30, 2020, we held 26.2 percent of Gelesis' outstanding equity. Ms. Zohar does not have any direct interest in the share capital of Gelesis. Ms. Zohar recuses herself from any and all material decisions with regard to Gelesis.

C. INTERESTS OF EXPERTS AND COUNSEL

Not applicable.

ITEM 8. FINANCIAL INFORMATION

A. CONSOLIDATED STATEMENTS AND OTHER FINANCIAL INFORMATION

Consolidated financial statements

Our audited consolidated financial statements for the fiscal years December 31, 2019, 2018 and 2017 are included in Item 18 of this registration statement.

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Legal proceedings

From time to time, we may become involved in legal, governmental or arbitration proceedings or be subject to claims arising in the ordinary course of our business. We are not presently a party to any legal, governmental or arbitration proceeding. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

Dividend distribution policy

We have never declared or paid any dividends on our ordinary shares, and we currently do not plan to declare or pay dividends on our ordinary shares in the foreseeable future. Under English law, we may only pay dividends if our accumulated realized profits, which have not been previously distributed or capitalized, exceed our accumulated realized losses, so far as such losses have not been previously written off in a reduction or reorganization of capital. Therefore, we must have sufficient distributable profits before issuing a dividend. Distributable profits are determined at the holding company level and not on a consolidated basis. Subject to such restrictions and to any restrictions set out in the Articles of Association, declaration and payment of cash dividends in the future, if any, will be at the discretion of our board of directors (and in the case of final dividends, must be approved by our shareholders), and will depend upon such factors as results of operations, capital requirements, contractual restrictions, our overall financial condition or applicable laws and any other factors deemed relevant by our board of directors.

B. SIGNIFICANT CHANGES

Except as otherwise disclosed in this registration statement, no significant change has occurred since the date of the most recent financial statements included in this registration statement.

ITEM 9. THE OFFER AND LISTING

A. OFFER AND LISTING DETAILS

The principal trading market for our ordinary shares is the main market of the London Stock Exchange, where our ordinary shares have been traded since June 2015 under the ticker code "PRTC."

We intend to apply to list the ADSs on the Nasdaq Global Market under the symbol "PRTC." For a description of the rights of our ADSs, see "Item 12. Description of Securities Other Than Equity Securities – D. American Depositary Shares."

B. PLAN OF DISTRIBUTION

Not applicable.

C. MARKETS

Our ordinary shares are trading on the London Stock Exchange. We are in the process of applying to have our ADSs listed on the Nasdaq Global Market under the symbol "PRTC." We make no representation that such application will be approved or that our ADSs will trade on such market either now or at any time in the future.

D. SELLING SHAREHOLDERS

Not applicable.

E. DILUTION

Not applicable.

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F. EXPENSES OF THE ISSUE

Not applicable.

ITEM 10. ADDITIONAL INFORMATION

A. SHARE CAPITAL

Issued Share Capital

Our issued share capital as of July 31, 2020 is 285,647,414 ordinary shares with a par value of £0.01 per ordinary share. Each issued ordinary share is fully paid. We currently have no deferred shares in our issued share capital.

Ordinary Shares

The holders of ordinary shares are entitled to receive dividends in proportion to the number of ordinary shares held by them and according to the amount paid up on such ordinary shares during any portion or portions of the period in respect of which the dividend is paid. Holders of ordinary shares are entitled, in proportion to the number of ordinary shares held by them and to the amounts paid up thereon, to share in any surplus in the event of our winding up. The holders of ordinary shares are entitled to receive notice of, attend either in person or by proxy or, being a corporation, by a duly authorized representative, and vote at general meetings of shareholders.

Share Register

We are required by the Companies Act 2006 to keep a register of our shareholders. Under English law, the ordinary shares are deemed to be issued when the name of the shareholder is entered in our share register. The share register therefore is prima facie evidence of the identity of our shareholders, and the shares that they hold. The share register generally provides limited, or no, information regarding the ultimate beneficial owners of our ordinary shares. Our share register is maintained by our registrar, Computershare Investor Services PLC.

As an ADS holder, we will not treat you as one of our shareholders and your name will therefore not be entered into our share register. The depository will be the holder of the shares underlying our ADSs. For discussion on our ADSs and ADS holder rights see “Description of American Depository Shares” in this registration statement. As an ADS holder, you have a right to receive the ordinary shares underlying your ADSs as discussed at “Description of American Depository Shares—Your Right to Receive the Shares Underlying your ADSs” in this registration statement.

Under the Companies Act 2006, we must enter an allotment of shares in our share register as soon as practicable and in any event within two months of the allotment. We are also required by the Companies Act 2006 to register a transfer of shares (or give the transferee notice of and reasons for refusal) as soon as practicable and in any event within two months of receiving notice of the transfer.

We, any of our shareholders or any other affected person may apply to the court for rectification of the share register if:

- the name of any person is wrongly entered in or omitted from our register of members; or
- there is a failure or unnecessary delay in amending the register of members to show the date a member ceased to be a member.

Options

Under the PSP, awards of ordinary shares may be made to our directors, senior managers and employees of, and other individuals providing services to us and our subsidiaries up to a maximum authorized amount of

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22,724,800 ordinary shares. During the twelve months ended December 31, 2019, we granted 3,634,183 stock option awards under the PSP.

Certain of our subsidiaries have also adopted stock option plans.

History of Share Capital

For the dates described below, the Company issued Ordinary Shares as follows:

<u>Issue Date or Period</u>	<u>Type of Issuance</u>	<u>Number of Ordinary Shares Issued</u>	<u>Number of Shares after Issuance</u>	<u>Consideration Received</u>
Fiscal year ended December 31, 2017	Exercise of stock options	41,745	237,429,696	(1)
Fiscal year ended December 31, 2018	Follow-on offering	45,000,000	282,429,696	(1)
Fiscal year ended December 31, 2018	Exercise of stock options	34,273	282,463,969	(1)
Fiscal year ended December 31, 2018	Executive RSU awards	29,898	282,493,867	(1)
Fiscal year ended December 31, 2019	Acquisition of Ariya Therapeutics, Inc. minority interest	2,126,338	284,620,205	(2)
Fiscal year ended December 31, 2019	Executive RSU awards	513,324	285,133,529	(1)
Fiscal year ended December 31, 2019	Exercise of stock options	237,090	285,370,619	(1)
Six months ended June 30, 2020	Exercise of stock options	141,842	285,512,461	(1)

(1) We received a cash consideration for this issuance.

(2) Prior to this issuance, we held a majority of the outstanding equity of Ariya Therapeutics, Inc., or Ariya. We issued these shares in exchange for consideration consisting of 1,775,000 shares of Ariya's common stock and options to purchase 1,792,500 shares of Ariya's common stock, such that we owned 100% of Ariya following the transaction."

B. ARTICLES OF ASSOCIATION

Articles of Association

Objects

Section 31 of the Companies Act 2006 provides that the objects of a company are unrestricted unless any restrictions are set out in the articles. There are no such restrictions in the Articles and our objects are therefore unrestricted.

Voting rights

Subject to any rights or restrictions attached to any shares, on a show of hands:

- every shareholder who is entitled to vote on the resolution and who is present in person has one vote;
- every proxy present who has been duly appointed by one or more shareholders entitled to vote on the resolution(s) has one vote;
- a proxy has one vote for and one vote against the resolution(s) if he has been duly appointed by more than one shareholder entitled to vote on the resolution and either (i) is instructed by one or more of those shareholders to vote for the resolution and by one or more others to vote against it; or (ii) is instructed by one or more of those shareholders to vote in one way and is given a discretion as to how to vote by one or more others (and wishes to use that discretion to vote in the other way);
- subject to any rights or restrictions attached to any shares, on a poll every shareholder who is entitled to vote on the resolutions and is present in person or by proxy shall have one vote for every share of which he is the holder;

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- where there are joint holders of a share, the vote of the senior who tenders a vote, whether in person or by proxy, shall be accepted to the exclusion of the vote or votes of the other joint holder or holders. Seniority is determined by the order in which the names of the holders stand in the register; and
- unless the Board otherwise determines, a shareholder shall not be entitled to vote unless all calls or other sums due and payable from him in respect of shares in our company have been paid.

Dividends

Subject to the Companies Act 2006 and the Articles, we may by ordinary resolution declare dividends, but no such dividends shall exceed the amount recommended by the Board. Subject to the Companies Act 2006, the Board may declare and pay such interim dividends (including any dividend payable at a fixed rate) as appear to the Board to be justified by the profits of our company available for distribution.

Except as otherwise provided by the rights attached to shares, all dividends shall be declared and paid according to the amounts paid up or credited as paid up (other than amounts paid in advance of calls) on the shares in respect of which the dividend is paid and shall be apportioned and paid proportionately to the amounts paid up on such shares during any portion or portions of the period in respect of which the dividend is paid.

Dividends may be declared or paid in whatever currency the Board decides. Unless otherwise provided by the rights attached to the shares, dividends shall not carry a right to receive interest.

All dividends unclaimed for a period of 12 years after having been declared or becoming due for payment shall be forfeited and cease to remain owing by us.

The Board may, with the authority of an ordinary resolution of our company:

- offer holders of ordinary shares the right to elect to receive further ordinary shares, credited as fully paid, instead of cash in respect of all or part of any dividend or dividends specified by the ordinary resolution; and
- direct that payment of all or part of any dividend declared may be satisfied by the distribution of specific assets.

There are no fixed or specified dates on which entitlements to dividends payable by us arise.

Pre-emption rights

In certain circumstances, shareholders may have statutory pre-emption rights under the Companies Act 2006 in respect of the allotment of new shares in our company. These statutory pre-emption rights would require us to offer new shares for allotment to existing shareholders on a pro rata basis before allotting them to other persons. In such circumstances, the procedure for the exercise of such statutory pre-emption rights would be set out in the documentation by which such shares would be offered to shareholders.

Distribution of assets on a winding-up

On a winding up, a liquidator may, with the authority of a special resolution of our company and any other sanction required by law divide among the shareholders in kind the whole or any part of the assets of our company, whether or not the assets consist of property of one kind or different kinds and may for such purposes set such value as he considers fair upon any one or more class or classes of property and may determine how such division shall be carried out as between the Shareholders or different classes of Shareholders. The liquidator may, with the same authority, transfer any part of the assets to trustees on such trusts for the benefit of shareholders as the liquidator, with the same authority, thinks fit and the liquidation may then be closed and our company dissolved, but so that no Shareholder shall be compelled to accept any shares or other property in respect of which there is a liability.

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Transfer of shares

Every transfer of shares which are in certificated form must be in writing in any usual form or in any form approved by the Board and shall be executed by or on behalf of the transferor and (in the case of a transfer of a share which is not fully paid up) by or on behalf of the transferee.

Every transfer of shares which are in uncertificated form must be made by means of a relevant system (such as CREST).

The Board may, in its absolute discretion and without giving reason, refuse to register any transfer of certificated shares if: (a) it is in respect of a share which is not fully paid up (provided that, if such share is admitted to trading on a recognised investment exchange, the refusal does not prevent dealings in our company's shares from taking place on an open and proper basis); (b) it is in respect of more than one class of share; (c) it is not duly stamped (if so required) or duly certified or otherwise shown to the satisfaction of the Board to be exempt from stamp duty; or (d) it is not delivered for registration to the registered office of our company or such other place as the Board may from time to time determine, accompanied (except in the case of a transfer by a recognized person (as defined in the Articles) where a certificate has not been issued) by the relevant share certificate and such other evidence as the Board may reasonably require to show the right of the transferor to make the transfer and, if the transfer is signed by some other person on his behalf, the authority of that person to do so.

The Board may, in its absolute discretion and without giving reason, refuse to register any transfer or allotment of shares which is in favor of: (a) a child, bankrupt or person of unsound mind; or (b) more than four joint transferees

Restrictions on voting rights

If a member or any person appearing to be interested in shares held by such a member has been duly served with a notice under section 793 of the Companies Act 2006 and has failed in relation to any shares ("default shares") to give us the information thereby required within 14 days from the date of the notice, then, unless the Board otherwise determines, the member shall not be entitled to vote or exercise any right conferred by membership in relation to meetings of our company in respect of such default shares. Where the holding represents more than 0.25 percent of the issued shares of that class (excluding any shares of that class held as treasury shares) then: (i) the payment of dividends may be withheld and such member shall not be entitled to elect to receive shares instead of that dividend; and (ii) save for an excepted transfer as defined in the Articles) and subject to the requirements of the relevant system in relation to shares in uncertificated form, no transfer of a default share shall be registered unless the member himself is not in default and the member proves to the satisfaction of the Board that no person in default is interested in the shares the subject of the transfer.

Variation of class rights

Subject to the Companies Act 2006, all or any of the rights or privileges attached to any class of shares in our company may be varied or abrogated in such manner (if any) as may be provided by such rights, or, in the absence of any such provision, either with the consent in writing of the holders of at least three-fourths of the nominal amount of the issued shares of that class or with the sanction of a special resolution passed at a separate meeting of such holders of shares of that class, but not otherwise. The quorum at any such meeting (other than an adjourned meeting) is two persons holding or representing by proxy at least one third in nominal amount of the issued shares of the class in question.

The rights attached to any class of shares shall not, unless otherwise expressly provided in the rights attaching to such shares, be deemed to be varied or abrogated by the creation or issue of shares ranking *pari passu* with or subsequent to them or by the purchase or redemption by us of any of our own shares.

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Share capital, changes in capital and purchase of own shares

Subject to the Companies Act 2006 and to the Articles, the power to allot and issue shares shall be exercised by the Board at such times and on such terms and conditions as the Board may determine.

Subject to the Articles and to any rights attached to any existing shares, any share may be issued with such rights or restrictions as we may from time to time determine by ordinary resolution.

We may issue redeemable shares and the Board may determine the terms, conditions and manner of redemption of such shares, provided it does so before the shares are allotted.

General meetings

The Board may convene a general meeting whenever it thinks fit.

Pursuant to the Companies Act 2006, an annual general meeting shall be called on not less than 21 clear days' notice. All other general meetings shall be called by not less than 14 clear days' notice.

The quorum for a general meeting is two shareholders present in person or by proxy and entitled to vote.

The Board and, at any general meeting, the chairman of the meeting may make any arrangement and impose any requirement or restriction which it or he considers appropriate to ensure the security or orderly conduct of the meeting. This may include requirements for evidence of identity to be produced by those attending, the searching of their personal property and the restriction of items which may be taken into the meeting place.

Appointment of directors

Unless otherwise determined by ordinary resolution, there shall be no maximum number of directors, but the number of directors shall not be less than two. Subject to the Companies Act 2006 and the Articles, we may by ordinary resolution appoint any person who is willing to act as a director either as an additional director or to fill a vacancy. The Board may also appoint any person who is willing to act as a director, subject to the Companies Act 2006 and the Articles. Any person appointed by the Board as a director will hold office only until conclusion of the next annual general meeting, unless he is re-elected during such meeting.

The Board may appoint any director to hold any employment or executive office in our company and may also revoke or terminate any such appointment (without prejudice to any claim for damages for breach of any service contract between the director and our company).

Retirement and removal of directors

Our Articles provide that at each annual general meeting of our company, one-third of the directors who are subject to retirement by rotation or, if their number is not three, the number nearest to but not exceeding one third shall retire from office unless there are fewer than three directors who are subject to retirement by rotation, in which case only one shall retire from office. However, in accordance with the U.K. Corporate Governance Code and best practice, at each annual general meeting all of our directors retire from office and put themselves forward for re-election. In addition, any director who has been a director at each of the preceding two annual general meetings shall also retire. Each such director may, if eligible, offer himself for re-election. If our company, at the meeting at which a director retires, does not fill the vacancy the retiring director shall, if willing, be deemed to have been reappointed unless it is expressly resolved not to fill the vacancy or a resolution for the reappointment of the director is put to the meeting and lost.

Without prejudice to the provisions of the Companies Act 2006, our company may by ordinary resolution remove any director before the expiration of his period of office and may by ordinary resolution appoint another director in his place.

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Directors' interests

Subject to the Companies Act 2006 and provided that he has disclosed to the directors the nature and extent of any interest, a director is able to enter into contracts or other arrangements with us, hold any other office (except auditor) with us or be a director, employee or otherwise interested in any company in which our company is interested. Such a director shall not be liable to account to us for any profit, remuneration or other benefit realized by any such office, employment, contract, arrangement or proposal.

Save as otherwise provided by the Articles, a director shall not vote on, or be counted in the quorum in relation to, any resolution of the Board concerning any contract, arrangement, transaction or proposal to which our company is or is to be a party and in which he (together with any person connected with him) is to his knowledge materially interested, directly or indirectly. Interests of which the director is not aware, interests which cannot reasonably be regarded as likely to give rise to a conflict of interest and interests arising purely as a result of an interest in our company's shares, debentures or other securities are disregarded. However, a director can vote and be counted in the quorum where the resolution relates to any of the following:

- the giving of any guarantee, security or indemnity in respect of (i) money lent or obligations incurred by him or by any other person at the request of or for the benefit of our company or any of its subsidiary undertakings or (ii) a debt or obligation of our company or any of its subsidiary undertakings for which the director himself has assumed responsibility in whole or in part under a guarantee or indemnity or by the giving of security;
- the participation of the director, in an offer of securities of our company or any of its subsidiary undertakings, including participation in the underwriting or sub-underwriting of the offer;
- a proposal involving another company in which he and any persons connected with him has a direct or indirect interest of any kind, unless he and any persons connected with him hold an interest in shares representing one percent or more of either any class of equity share capital, or the voting rights, in such company;
- any arrangement for the benefit of employees of our company or of any of its subsidiary undertakings which does not award the director any privilege or benefit not generally awarded to the employees to whom such arrangement relates;
- any proposal concerning the purchase or maintenance of any insurance policy under which he may benefit;
- any proposal concerning indemnities in favor of directors or the funding of expenditure by one or more directors on defending proceedings against such director(s).

A director shall not vote or be counted in the quorum on any resolution of the Board concerning his own appointment (including fixing or varying the terms of his appointment or its termination) as the holder of any office or place of profit with our company or any company in which our company is interested.

The Board may authorize any matter that would otherwise involve a Director breaching his duty under the Companies Act 2006 to avoid conflicts of interest, provided that the interested director(s) do not vote or count in the quorum in relation to any resolution authorizing the matter. The Board may authorize the relevant matter on such terms as it may determine including:

- whether the interested director(s) may vote or be counted in the quorum in relation to any resolution relating to the relevant matter;
- the exclusion of the interested director(s) from all information and discussion by our company of the relevant matter; and
- the imposition of confidentiality obligations on the interested director(s).

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An interested director must act in accordance with any terms determined by the Board. An authorization of a relevant matter may also provide that where the interested director obtains information that is confidential to a third party (other than through his position as director) he will not be obliged to disclose it to our company or to use it in relation to our company's affairs, if to do so would amount to a breach of that confidence.

Powers of the directors

Subject to the Articles and to any directions given by special resolution of the Company, the business of the Company shall be managed by the Board, which may exercise all the powers of the Company whether relating to the management of the business or not.

Differences in Corporate Law

The applicable provisions of the Companies Act 2006 differ from laws applicable to U.S. corporations and their shareholders. Set forth below is a summary of certain differences between the provisions of the Companies Act 2006 applicable to us and the Delaware General Corporation Law relating to shareholders' rights and protections. This summary is not intended to be a complete discussion of the respective rights and it is qualified in its entirety by reference to Delaware law and English law.

	<u>ENGLAND AND WALES</u>	<u>DELAWARE</u>
Number of Directors	Under the Companies Act 2006, a public limited company must have at least two directors and the number of directors may be fixed by or in the manner provided in a company's articles of association.	Under Delaware law, a corporation must have at least one director and the number of directors shall be fixed by or in the manner provided in the bylaws.
Removal of Directors	Under the Companies Act 2006, shareholders may remove a director without cause by an ordinary resolution (which is passed by a simple majority of those voting in person or by proxy at a general meeting) irrespective of any provisions of any service contract the director has with the company, provided 28 clear days' notice of the resolution has been given to the company and its shareholders. On receipt of notice of an intended resolution to remove a director, the company must forthwith send a copy of the notice to the director concerned. Certain other procedural requirements under the Companies Act 2006 must also be followed such as allowing the director to make representations against his or her removal either at the meeting or in writing.	Under Delaware law, any director or the entire board of directors may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote at an election of directors, except (a) unless the certificate of incorporation provides otherwise, in the case of a corporation whose board of directors is classified, shareholders may effect such removal only for cause, or (b) in the case of a corporation having cumulative voting, if less than the entire board of directors is to be removed, no director may be removed without cause if the votes cast against his removal would be sufficient to elect him if then cumulatively voted at an election of the entire board of directors, or, if there are classes of directors, at an election of the class of directors of which he is a part.

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	<u>ENGLAND AND WALES</u>	<u>DELAWARE</u>
Vacancies on the Board of Directors	<p>Under English law, the procedure by which directors, other than a company's initial directors, are appointed is generally set out in a company's articles of association, provided that where two or more persons are appointed as directors of a public limited company by resolution of the shareholders, resolutions appointing each director must be voted on individually.</p>	<p>Under Delaware law, vacancies and newly created directorships may be filled by a majority of the directors then in office (even though less than a quorum) or by a sole remaining director unless (a) otherwise provided in the certificate of incorporation or by-laws of the corporation or (b) the certificate of incorporation directs that a particular class of stock is to elect such director, in which case a majority of the other directors elected by such class, or a sole remaining director elected by such class, will fill such vacancy.</p>
Annual General Meeting	<p>Under the Companies Act 2006, a public limited company must hold an annual general meeting within the six-month period following the company's annual accounting reference date.</p>	<p>Under Delaware law, the annual meeting of stockholders shall be held at such place, on such date and at such time as may be designated from time to time by the board of directors or as provided in the certificate of incorporation or by the bylaws.</p>
General Meeting	<p>Under the Companies Act 2006, a general meeting of the shareholders of a public limited company may be called by the directors.</p> <p>Shareholders holding at least 5 percent of the paid-up capital of the company carrying voting rights at general meetings can require the directors to call a general meeting and, if the directors fail to do so within 21 days (with the meeting to be held not more than 28 days after the date of the notice),, may themselves convene a general meeting.</p>	<p>Under Delaware law, special meetings of the stockholders may be called by the board of directors or by such person or persons as may be authorized by the certificate of incorporation or by the bylaws.</p>
Notice of General Meetings	<p>Under the Companies Act 2006, 21 clear days' notice must be given for an annual general meeting and any resolutions to be proposed at the meeting. Subject to a company's articles of</p>	<p>Under Delaware law, unless otherwise provided in the certificate of incorporation or bylaws, written notice of any meeting of the stockholders must be given to each stockholder</p>

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	<p>association providing for a longer period, at least 14 clear days' notice is required for any other general meeting. In addition, certain matters, such as the removal of directors or auditors, require special notice, which is 28 clear days' notice. The shareholders of a company may in all cases consent to a shorter notice period, the proportion of shareholders' consent required being 100 percent of those entitled to attend and vote in the case of an annual general meeting and, in the case of any other general meeting, a majority in number of the members having a right to attend and vote at the meeting, being a majority who together hold not less than 95 percent in nominal value of the shares giving a right to attend and vote at the meeting.</p>	<p>entitled to vote at the meeting not less than ten nor more than 60 days before the date of the meeting and shall specify the place, date, hour, and purpose or purposes of the meeting.</p>
Proxy	<p>Under the Companies Act 2006, at any meeting of shareholders, a shareholder may designate another person to attend, speak and vote at the meeting on their behalf by proxy.</p>	<p>Under Delaware law, at any meeting of stockholders, a stockholder may designate another person to act for such stockholder by proxy, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. A director of a Delaware corporation may not issue a proxy representing the director's voting rights as a director.</p>
Pre-emptive Rights	<p>Under the Companies Act 2006, "equity securities", being (i) shares in the company other than shares that, with respect to dividends and capital, carry a right to participate only up to a specified amount in a distribution ("ordinary shares") or (ii) rights to subscribe for, or to convert securities into, ordinary shares, proposed to be allotted for cash must be offered first to the existing equity shareholders in the company in proportion to the respective nominal value of their</p>	<p>Under Delaware law, shareholders have no preemptive rights to subscribe to additional issues of stock or to any security convertible into such stock unless, and except to the extent that, such rights are expressly provided for in the certificate of incorporation.</p>

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Authority to Allot	<p>holdings, unless an exception applies or a special resolution to the contrary has been passed by shareholders in a general meeting or the articles of association provide otherwise in each case in accordance with the provisions of the Companies Act 2006.</p> <p>Under the Companies Act 2006 the directors of a company must not allot shares or grant of rights to subscribe for or to convert any security into shares unless an exception applies or an ordinary resolution to the contrary has been passed by shareholders in a general meeting or the articles of association provide otherwise in each case in accordance with the provisions of the Companies Act 2006.</p>	<p>Under Delaware law, if the corporation's charter or certificate of incorporation so provides, the board of directors has the power to authorize the issuance of stock. It may authorize capital stock to be issued for consideration consisting of cash, any tangible or intangible property or any benefit to the corporation or any combination thereof. It may determine the amount of such consideration by approving a formula. In the absence of actual fraud in the transaction, the judgment of the directors as to the value of such consideration is conclusive.</p>
Liability of Directors and Officers	<p>Under the Companies Act 2006, any provision, whether contained in a company's articles of association or any contract or otherwise, that purports to exempt a director of a company, to any extent, from any liability that would otherwise attach to him in connection with any negligence, default, breach of duty or breach of trust in relation to the company is void.</p> <p>Any provision by which a company directly or indirectly provides an indemnity, to any extent, for a director of the company or of an associated company against any liability attaching to him in connection with any negligence, default, breach of duty or breach of trust in relation to the company of which he is a director is also void except as permitted by the Companies Act 2006, which provides</p>	<p>Under Delaware law, a corporation's certificate of incorporation may include a provision eliminating or limiting the personal liability of a director to the corporation and its stockholders for damages arising from a breach of fiduciary duty as a director. However, no provision can limit the liability of a director for:</p> <ul style="list-style-type: none">• any breach of the director's duty of loyalty to the corporation or its stockholders;• acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;• intentional or negligent payment of unlawful dividends or stock purchases or redemptions; or

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Voting Rights

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<p>exceptions for the company to (a) purchase and maintain insurance against such liability; (b) provide a “qualifying third party indemnity” (being an indemnity against liability incurred by the director to a person other than the company or an associated company or criminal proceedings in which he is not convicted); and (c) provide a “qualifying pension scheme indemnity” (being an indemnity against liability incurred in connection with the company’s activities as trustee of an occupational pension plan).</p>	<ul style="list-style-type: none">any transaction from which the director derives an improper personal benefit.
<p>Under English law, unless a poll is demanded by the shareholders of a company or is required by the chairman of the meeting or the company’s articles of association, shareholders shall vote on all resolutions on a show of hands. Under the Companies Act 2006, a poll may be demanded by (a) not fewer than five shareholders having the right to vote on the resolution; (b) any shareholder(s) representing not less than 10 percent of the total voting rights of all the shareholders having the right to vote on the resolution; or (c) any shareholder(s) holding shares in the company conferring a right to vote on the resolution being shares on which an aggregate sum has been paid up equal to not less than 10 percent of the total sum paid up on all the shares conferring that right. A company’s articles of association may provide more extensive rights for shareholders to call a poll.</p> <p>Under English law, an ordinary resolution is passed on a show of hands if it is approved by a simple majority (more than 50 percent) of the votes cast by shareholders present (in person or by proxy)</p>	<p>Delaware law provides that, unless otherwise provided in the certificate of incorporation, each stockholder is entitled to one vote for each share of capital stock held by such stockholder.</p>

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Shareholder Vote on Certain Transactions	<p>and entitled to vote. If a poll is demanded, an ordinary resolution is passed if it is approved by holders representing a simple majority of the total voting rights of shareholders present, in person or by proxy, who, being entitled to vote, vote on the resolution. Special resolutions require the affirmative vote of not less than 75 percent of the votes cast by shareholders present, in person or by proxy, at the meeting and entitled to vote.</p> <p>The Companies Act 2006 provides for schemes of arrangement, which are arrangements or compromises between a company and any class of shareholders or creditors and used in certain types of reconstructions, amalgamations, capital reorganizations or takeovers. These arrangements require:</p> <ul style="list-style-type: none">• the approval at a shareholders' or creditors' meeting convened by order of the court, of a majority in number of shareholders or creditors representing 75 percent in value of the capital held by, or debt owed to, the class of shareholders or creditors, or class thereof present and voting, either in person or by proxy; and• the approval of the court.	<p>Generally, under Delaware law, unless the certificate of incorporation provides for the vote of a larger portion of the stock, completion of a merger, consolidation, sale, lease or exchange of all or substantially all of a corporation's assets or dissolution requires:</p> <ul style="list-style-type: none">• the approval of the board of directors; and• approval by the vote of the holders of a majority of the outstanding stock or, if the certificate of incorporation provides for more or less than one vote per share, a majority of the votes of the outstanding stock of a corporation entitled to vote on the matter.
Standard of Conduct for Directors	<p>Under English law, a director owes various statutory and fiduciary duties to the company, including:</p> <ul style="list-style-type: none">• to act in the way he considers, in good faith, would be most likely to promote the success of the company for the benefit of its members as a whole;• to avoid a situation in which he has, or can have, a direct	<p>Delaware law does not contain specific provisions setting forth the standard of conduct of a director. The scope of the fiduciary duties of directors is generally determined by the courts of the State of Delaware. In general, directors have a duty to act without self-interest, on a well-informed basis and in a manner they reasonably believe to be in</p>

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	<p>or indirect interest that conflicts, or possibly conflicts, with the interests of the company;</p> <ul style="list-style-type: none">• to act in accordance with the company's constitution and only exercise his powers for the purposes for which they are conferred;• to exercise independent judgment;• to exercise reasonable care, skill and diligence;• not to accept benefits from a third party conferred by reason of his being a director or doing, or not doing, anything as a director; and• a duty to declare any interest that he has, whether directly or indirectly, in a proposed or existing transaction or arrangement with the company.	<p>the best interest of the stockholders.</p> <p>Directors of a Delaware corporation owe fiduciary duties of care and loyalty to the corporation and to its shareholders. The duty of care generally requires that a director act in good faith, with the care that an ordinarily prudent person would exercise under similar circumstances. Under this duty, a director must inform himself of all material information reasonably available regarding a significant transaction. The duty of loyalty requires that a director act in a manner he reasonably believes to be in the best interests of the corporation. He must not use his corporate position for personal gain or advantage. In general, but subject to certain exceptions, actions of a director are presumed to have been made on an informed basis, in good faith and in the honest belief that the action taken was in the best interests of the corporation. However, this presumption may be rebutted by evidence of a breach of one of the fiduciary duties. Delaware courts have also imposed a heightened standard of conduct upon directors of a Delaware corporation who take any action designed to defeat a threatened change in control of the corporation.</p> <p>In addition, under Delaware law, when the board of directors of a Delaware corporation approves the sale or break-up of a corporation, the board of directors may, in certain circumstances, have a duty to obtain the highest value reasonably available to the shareholders.</p>
Stockholder Suits	Under English law, generally, the company, rather than its	Under Delaware law, a stockholder may initiate a

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shareholders, is the proper claimant in an action in respect of a wrong done to the company or where there is an irregularity in the company's internal management. Notwithstanding this general position, the Companies Act 2006 provides that (i) a court may allow a shareholder to bring a derivative claim (that is, an action in respect of and on behalf of the company) in respect of a cause of action arising from a director's negligence, default, breach of duty or breach of trust and (ii) a shareholder may bring a claim for a court order where the company's affairs have been or are being conducted in a manner that is unfairly prejudicial to some of its shareholders.

DELAWARE

derivative action to enforce a right of a corporation if the corporation fails to enforce the right itself. The complaint must:

- state that the plaintiff was a stockholder at the time of the transaction of which the plaintiff complains or that the plaintiff's shares thereafter devolved on the plaintiff by operation of law; and
- allege with particularity the efforts made by the plaintiff to obtain the action the plaintiff desires from the directors and the reasons for the plaintiff's failure to obtain the action; or
- state the reasons for not making the effort.

Additionally, the plaintiff must remain a stockholder through the duration of the derivative suit. The action will not be dismissed or compromised without the approval of the Delaware Court of Chancery.

C. MATERIAL CONTRACTS

Except as otherwise set forth below or as otherwise disclosed in this registration statement, we are not currently, and have not been in the last two years, party to any material contract, other than contracts entered into in the ordinary course of business. See the section titled "License Agreements" in Section 4B herein.

D. EXCHANGE CONTROLS

Other than certain economic sanctions which may be in place from time to time, there are currently no UK laws, decrees or regulations restricting the import or export of capital or affecting the remittance of dividends or other payment to holders of ordinary shares who are non-residents of the United Kingdom. Similarly, other than certain economic sanctions which may be in force from time to time, there are no limitations relating only to nonresidents of the United Kingdom under English law or the Company's articles of association on the right to be a holder of, and to vote in respect of, the ordinary shares.

E. TAXATION

Certain United Kingdom Tax Considerations

The following is a general summary of certain U.K. tax considerations relating to the ownership and disposal of an ordinary share or ADS and does not address all possible tax consequences relating to an investment in an ordinary share or ADS. It is based on U.K. tax law and generally published HM Revenue & Customs, or HMRC, practice (which may not be binding on HMRC) as of the date of this registration statement, both of which are subject to change, possibly with retrospective effect.

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Save as provided otherwise, this summary applies only to a person who is the absolute beneficial owner of an ordinary share or ADS and who is resident (and, in the case of an individual, domiciled) in the United Kingdom for tax purposes and who is not resident for tax purposes in any other jurisdiction and does not have a permanent establishment or fixed base in any other jurisdiction with which the holding of an ordinary share or ADS is connected (“U.K. Holders”). A person (a) who is not resident (or, if resident, is not domiciled) in the United Kingdom for tax purposes, including an individual and company who trades in the United Kingdom through a branch, agency or permanent establishment in the United Kingdom to which an ordinary share or ADS is attributable, or (b) who is resident or otherwise subject to tax in a jurisdiction outside the United Kingdom, is recommended to seek the advice of professional advisors in relation to their taxation obligations.

This summary is for general information only and is not intended to be, nor should it be considered to be, legal or tax advice to any particular investor. It does not address all of the tax considerations that may be relevant to specific investors in light of their particular circumstances or to investors subject to special treatment under U.K. tax law. In particular:

- this summary only applies to an absolute beneficial owner of an ordinary share or ADS and any dividend paid in respect of the ordinary share where the dividend is regarded for U.K. tax purposes as that person’s own income (and not the income of some other person);
- this summary: (a) only addresses the principal U.K. tax consequences for an investor who holds an ordinary share or ADS as a capital asset, (b) does not address the tax consequences that may be relevant to certain special classes of investor such as a dealer, broker or trader in shares or securities and any other person who holds an ordinary share or ADS otherwise than as an investment, (c) does not address the tax consequences for a holder that is a financial institution, insurance company, collective investment scheme, pension scheme, charity or tax-exempt organization, (d) assumes that a holder is not an officer or employee of the company (nor of any related company) and has not (and is not deemed to have) acquired the an ordinary share or ADS by virtue of an office or employment, and (e) assumes that a holder does not control or hold (and is not deemed to control or hold), either alone or together with one or more associated or connected persons, directly or indirectly (including through the holding of an ordinary share or ADS), an interest of 10 percent or more in the issued share capital (or in any class thereof), voting power, rights to profits or capital of the company, and is not otherwise connected with the company.

This summary further assumes that a holder of an ordinary share or ADS is the beneficial owner of the underlying ordinary share for U.K. direct tax purposes.

POTENTIAL INVESTORS IN THE ORDINARY SHARES OR ADSs SHOULD SATISFY THEMSELVES PRIOR TO INVESTING AS TO THE OVERALL TAX CONSEQUENCES, INCLUDING, SPECIFICALLY, THE CONSEQUENCES UNDER U.K. TAX LAW AND HMRC PRACTICE OF THE ACQUISITION, OWNERSHIP AND DISPOSAL OF THE ORDINARY SHARES OR ADSs, IN THEIR OWN PARTICULAR CIRCUMSTANCES BY CONSULTING THEIR TAX ADVISERS.

Taxation of Dividends

Withholding Tax

A dividend payment in respect of an ordinary share may be made without withholding or deduction for or on account of U.K. tax.

Income Tax

A dividend received by individual U.K. Holders may, depending on his or her particular circumstances, be subject to U.K. income tax on the gross amount of the dividend paid.

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An individual holder of an ordinary share or ADS who is not a U.K. Holder will not be chargeable to U.K. income tax on a dividend paid by the company, unless such holder carries on (whether solely or in partnership) a trade, profession or vocation in the United Kingdom through a permanent establishment in the United Kingdom to which the ordinary share or ADS is attributable. In these circumstances, such holder may, depending on his or her individual circumstances, be chargeable to U.K. income tax on a dividend received from the company.

All dividends received by a UK Holder from the Company or from other sources will form part of the UK Holder's total income for UK income tax purposes and will constitute the top slice of that income. The rate of U.K. income tax that is chargeable on dividends received in the tax year 2020/2021 by (i) an additional rate taxpayer is 38.1 percent, (ii) a higher rate taxpayer is 32.5 percent, and (iii) a basic rate taxpayer is 7.5 percent. A nil rate of income tax will apply to the first £2,000 of taxable dividend income received by an individual U.K. Holder in a tax year.

Corporation Tax

A U.K. Holder within the charge to U.K. corporation tax may be entitled to exemption from U.K. corporation tax in respect of dividend payments, provided the dividends qualify for exemption (which is likely) and certain conditions are met (including anti-avoidance conditions). If the conditions for the exemption are not satisfied, or such U.K. Holder elects for an otherwise exempt dividend to be taxable, U.K. corporation tax will be chargeable on the gross amount of a dividend. If potential investors are in any doubt as to their position, they should consult their own professional advisers.

A corporate holder of an ordinary share or ADS that is not a U.K. Holder will not be subject to U.K. corporation tax on a dividend received from the company, unless it carries on a trade in the United Kingdom through a permanent establishment to which the ordinary share or ADS is attributable. In these circumstances, such holder may, depending on its individual circumstances and if the exemption from U.K. corporation tax discussed above does not apply, be chargeable to U.K. corporation tax on dividends received from the company.

Taxation of Disposals

U.K. Holders

A disposal or deemed disposal of an ordinary share or ADS by an individual U.K. Holder may, depending on his or her individual circumstances, give rise to a chargeable gain or to an allowable loss for the purpose of U.K. capital gains tax. The principal factors that will determine the capital gains tax position on a disposal of an ordinary share or ADS are the extent to which the holder realizes any other capital gains in the tax year in which the disposal is made, the extent to which the holder has incurred capital losses in that or any earlier tax year and the level of the annual exemption for tax-free gains in that tax year (the "annual exemption"). The annual exemption for the 2020/2021 tax year is £12,500. If, after all allowable deductions, an individual U.K. Holder's total taxable income for the year exceeds the basic rate income tax limit, a taxable capital gain accruing on a disposal of an ordinary share or an ADS is taxed at the rate of 20 percent. In other cases, a taxable capital gain accruing on a disposal of an ordinary share or ADS may be taxed at the rate of 10 percent save to the extent that any capital gains exceed the unused basic rate tax band. In that case, the rate currently applicable to the excess would be 20 percent.

An individual U.K. Holder who ceases to be resident in the United Kingdom (or who fails to be regarded as resident in a territory outside the United Kingdom for the purposes of double taxation relief) for a period of five tax years or less than five years and who disposes of an ordinary share or ADS during that period of temporary non-residence may be liable to U.K. capital gains tax on a chargeable gain accruing on such disposal on his or her return to the United Kingdom (or upon ceasing to be regarded as resident outside the United Kingdom for the purposes of double taxation relief) (subject to available exemptions or reliefs).

A disposal (or deemed disposal) of an ordinary share or ADS by a corporate U.K. Holder may give rise to a chargeable gain or an allowable loss for the purpose of U.K. corporation tax. Any gain or loss in respect of

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currency fluctuations over the period of holding an ordinary share or an ADS are also brought into account on a disposal.

Non-U.K. Holders

An individual holder who is not a U.K. Holder should not normally be liable to U.K. capital gains tax on capital gains realized on the disposal of an ordinary share or ADS unless such holder carries on (whether solely or in partnership) a trade, profession or vocation in the United Kingdom through a permanent establishment in the United Kingdom to which the ordinary share or ADS is attributable. In these circumstances, such holder may, depending on his or her individual circumstances, be chargeable to U.K. capital gains tax on chargeable gains arising from a disposal of his or her ordinary share or ADS.

A corporate holder of an ordinary share or ADS that is not a U.K. Holder will not be liable for U.K. corporation tax on chargeable gains realized on the disposal of an ordinary share or ADS unless: (i) it carries on a trade in the United Kingdom through a permanent establishment to which the ordinary share or ADS is attributable; or (ii) the corporate holder is disposing of an interest in a company and that disposal is of an asset that derives 75 percent or more of its gross asset value from UK land and that holder has a substantial indirect interest in UK land (broadly at least 25 percent at any time during the previous two years). In these circumstances, a disposal (or deemed disposal) of an ordinary share or ADS by such holder may give rise to a chargeable gain or an allowable loss for the purposes of U.K. corporation tax.

Inheritance Tax

If, for the purposes of the Double Taxation Relief (Taxes on Estates of Deceased Persons and on Gifts) Treaty United States of America Order 1979 (S1 1979/1454) between the United States and the United Kingdom, an individual holder is domiciled at the time of their death or at the time of a transfer made during their lifetime in the United States and is not a national of the United Kingdom, any ordinary share or ADS beneficially owned by that holder should not generally be subject to U.K. inheritance tax, provided that any applicable United States federal gift or estate tax liability is paid, except where (i) the ordinary share or ADS is part of the business property of a U.K. permanent establishment or pertain to a U.K. fixed base used for the performance of independent personal services; or (ii) the ordinary share or ADS is comprised in a settlement unless, at the time the settlement was made, the settlor was domiciled in the United States and not a national of the U.K. (in which case no charge to U.K. inheritance tax should apply).

Stamp Duty and Stamp Duty Reserve Tax

The stamp duty and stamp duty reserve tax, or SDRT, treatment of the issue, transfer and agreement to transfer an ordinary share outside a depository receipt system or a clearance service are discussed in the paragraphs under “*General*” below. The stamp duty and SDRT treatment of such transactions in relation to such systems are discussed in the paragraphs under “*Depository Receipt Systems and Clearance Services*” below.

General

The issue of an ordinary share or ADS does not give rise to a SDRT liability, according to the HM Revenue & Customs practice and recent case law and is not subject to stamp duty.

A transfer of an ordinary share or ADS will generally be subject to stamp duty at the rate of 0.5 percent of the consideration given for the transfer (rounded up to the next £5). An exemption from stamp duty is available on an instrument transferring an ordinary share or ADSs where the amount or value of the consideration is £1,000 or less, and it is certified on the instrument that the transaction effected does not form part of a larger transaction or series of transactions in respect of which the aggregate amount or value of the consideration exceeds £1,000. The purchaser normally pays the stamp duty.

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An unconditional agreement to transfer an ordinary share or ADS will normally give rise to a charge to SDRT at the rate of 0.5 percent of the amount or value of the consideration payable for the transfer. SDRT is, in general, payable by the purchaser.

If a duly stamped transfer completing an agreement to transfer is produced within six years of the date on which the agreement is made (or, if the agreement is conditional, the date on which the agreement becomes unconditional) any SDRT already paid is generally repayable, normally with interest, and any SDRT charge yet to be paid is cancelled.

No stamp duty will, in practice, be payable on a written instrument transferring an ordinary share or an ADS or on an unconditional agreement to transfer an ordinary share or an ADS if the instrument of transfer or the unconditional agreement to transfer is executed and remains at all times outside the UK.

Depository Receipt Systems and Clearance Services

Based on current HMRC practice and recent case law in respect of the European Council Directives 69/335/EC and 2009/7/EC, on the Capital Duties Directive, no SDRT is generally payable when shares are issued or transferred to a clearance service or depository receipt system as an integral part of a raising of capital.

Where an ordinary share or ADS is otherwise transferred (i) to, or to a nominee or an agent for, a person whose business is or includes the provision of clearance services or (ii) to, or to a nominee or an agent for a person whose business is or includes issuing depository receipts, stamp duty or SDRT will generally be payable at the higher rate of 1.5 percent of the amount or value of the consideration given or, in certain circumstances, the value of the shares.

There is an exception from the 1.5 percent charge on the transfer to, or to a nominee or agent for, a clearance service where the clearance service has made and maintained an election under section 97A(1) of the Finance Act 1986, which has been approved by HM Revenue & Customs. In these circumstances, SDRT at the rate of 0.5 percent of the amount or value of the consideration payable for the transfer will arise on any transfer of ordinary share into such an account and on subsequent agreements to transfer such shares within such account.

Any liability for stamp duty or SDRT in respect of a transfer into a clearance service or depository receipt system, or in respect of a transfer within such a service, which does arise will strictly be accountable by the clearance service or depository receipt system operator or their nominee, as the case may be, but will, in practice, be borne by the participants in the clearance service or depository receipt system.

Taxation in the United States

The following summary of the material U.S. federal income tax consequences of the acquisition, ownership and disposition of our ordinary shares or ADSs is based upon current law and does not purport to be a comprehensive discussion of all the tax considerations that may be relevant to a decision to purchase our ordinary shares or ADSs. This summary is based on current provisions of the Internal Revenue Code of 1986, as amended, or the Code, existing, final, temporary and proposed United States Treasury Regulations, administrative rulings and judicial decisions, in each case as available on the date of this registration statement. All of the foregoing are subject to change, which change could apply retroactively and could affect the tax consequences described below.

This section summarizes the material U.S. federal income tax consequences to U.S. holders and certain non-U.S. holders, each as defined below, of our ordinary shares or ADSs. This summary addresses only the U.S. federal income tax considerations for holders that acquire our ordinary shares or ADSs at their original issuance and hold our ordinary shares or ADSs as capital assets. This summary does not address all U.S. federal income tax matters that may be relevant to a particular holder. **Each prospective investor should consult a professional tax**

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advisor with respect to the tax consequences of the acquisition, ownership or disposition of our ordinary shares or ADSs. This summary does not address tax considerations applicable to a holder of our ordinary shares or ADSs that may be subject to special tax rules including, without limitation, the following:

- banks or other financial institutions;
- insurance companies;
- dealers or traders in securities, currencies, or notional principal contracts;
- tax-exempt entities, including an “individual retirement account” or “Roth IRA” retirement plan;
- regulated investment companies or real estate investment trusts;
- “qualified foreign pension funds,” or entities wholly owned by a “qualified foreign pension fund”; persons who have elected to mark securities to market
- persons that hold the ordinary shares as part of a hedge, straddle, conversion, constructive sale or similar transaction involving more than one position;
- holders (whether individuals, corporations or partnerships) that are treated as expatriates for some or all U.S. federal income tax purposes;
- persons who acquired the ADSs as compensation for the performance of services;
- persons holding the ADSs in connection with a trade or business conducted outside of the United States;
- holders that own (or are deemed to own) 10 percent or more of our ordinary shares or ADSs, by vote or value; and
- holders that have a “functional currency” other than the U.S. dollar.

Further, this summary does not address any aspects of any U.S. state, local or non-U.S. tax law, alternative minimum tax, gift or estate consequences, the rules regarding qualified small business stock within the meaning of Section 1202 of the Code, any election to apply Section 1400Z-2 of the Code to gains recognized with respect to our ordinary shares, any other U.S. federal tax other than the income tax or the indirect effects on the holders of equity interests in entities that own our ordinary shares or ADSs.

For the purposes of this summary, a “U.S. holder” is a beneficial owner of ordinary shares or ADSs that is (or is treated as), for U.S. federal income tax purposes:

- an individual who is either a citizen or resident of the United States;
- a corporation, or other entity that is treated as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States or any state of the United States or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust, if a court within the United States is able to exercise primary supervision over its administration and one or more U.S. persons have the authority to control all of the substantial decisions of such trust or has a valid election in effect under applicable U.S. Treasury Regulations to be treated as a United States person.

If a partnership holds ordinary shares or ADSs, the tax treatment of a partner will generally depend upon the status of the partner and upon the activities of the partnership. This discussion does not address the tax treatment of partnerships or other entities that are pass-through entities for U.S. federal income tax purposes or persons that hold their ordinary shares or ADSs through partnerships or other pass-through entities. A partner in a partnership or other pass-through entity that will hold our ordinary shares or ADSs should consult his, her or its tax advisor regarding the tax consequences of acquiring, holding and disposing of our ordinary shares or ADSs through a partnership or other pass-through entity, as applicable.

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We will not seek a ruling from the U.S. Internal Revenue Service, or IRS, with regard to the U.S. federal income tax treatment of an investment in our ordinary shares or ADSs, and we cannot assure you that the IRS will agree with the conclusions set forth below.

PERSONS CONSIDERING AN INVESTMENT IN ORDINARY SHARES OR ADSs SHOULD CONSULT THEIR TAX ADVISORS AS TO THE PARTICULAR TAX CONSEQUENCES APPLICABLE TO THEM RELATING TO THE ACQUISITION, OWNERSHIP AND DISPOSITION OF THE ORDINARY SHARES OR ADSs, INCLUDING THE APPLICABILITY OF U.S. FEDERAL, STATE AND LOCAL TAX LAWS.

Ownership of ADSs

For U.S. federal income tax purposes, a holder of ADSs generally will be treated as the owner of the ordinary shares represented by such ADSs. Gain or loss will generally not be recognized on account of exchanges of ordinary shares for ADSs, or of ADSs for ordinary shares. References to ordinary shares in the discussion below are deemed to include ADSs, unless context otherwise requires.

F. DIVIDENDS AND PAYING AGENTS

Not applicable.

G. STATEMENT BY EXPERTS

The consolidated financial statements of PureTech Health plc as of December 31, 2019, 2018 and 2017, and for each of the years in the three-year period ended December 31, 2019, have been included herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, appearing elsewhere herein, and upon the authority of said firm as experts in accounting and auditing.

H. DOCUMENTS ON DISPLAY

When this registration statement on Form 20-F becomes effective, we will be subject to the information reporting requirements of the Exchange Act applicable to foreign private issuers, and under those requirements will file reports with the SEC. The SEC also maintains a website at <http://www.sec.gov> from which filings may be accessed.

As a foreign private issuer, we will be exempt from the rules under the Exchange Act related to the furnishing and content of proxy statements, and our officers, directors and principal shareholders will be exempt from the reporting and short-swing profit recovery provisions contained in Section 16 of the Exchange Act. In addition, we will not be required under the Exchange Act to file annual, quarterly and current reports and financial statements with the SEC as frequently or as promptly as U.S. companies whose securities are registered under the Exchange Act. However, for so long as we are listed on Nasdaq, or any other U.S. exchange, and are registered with the SEC, we will file with the SEC, within 120 days after the end of each fiscal year, or such applicable time as required by the SEC, an annual report on Form 20-F containing financial statements audited by an independent registered public accounting firm.

I. SUBSIDIARY INFORMATION

For information about our subsidiaries, see the section entitled “Organizational Structure” under Item 4C of this registration statement.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

For information about our quantitative and qualitative disclosures about market risk, see “Item 5B. Operating and Financial Review and Prospects—Liquidity and Capital Resources” under the sub-heading “Quantitative and Qualitative Disclosures about Financial Risks.”

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ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

A. DEBT SECURITIES

Not applicable.

B. WARRANTS AND RIGHTS

Not applicable.

C. OTHER SECURITIES

Not applicable.

D. AMERICAN DEPOSITARY SHARES

Citibank, N.A. has agreed to act as the depository bank for the American Depositary Shares. Citibank's depository offices are located at 388 Greenwich Street, New York, New York, 10013. American Depositary Shares are frequently referred to as "ADSs" and represent ownership interests in securities that are on deposit with the depository bank. ADSs may be represented by certificates that are commonly known as "American Depositary Receipts" or "ADRs." The depository bank typically appoints a custodian to safekeep the securities on deposit. In this case, the custodian is Citibank, N.A.—London Branch, located at Citigroup Centre Canary Wharf, London E14 5LB D.

We will appoint Citibank as depository bank pursuant to a deposit agreement. A copy of the deposit agreement is on file with the SEC under cover of a Registration Statement on Form F-6. You may obtain a copy of the deposit agreement from the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549 and from the SEC's website (www.sec.gov). Please refer to Registration Number 333- when retrieving such copy.

We are providing you with a summary description of the material terms of the ADSs and of your material rights as an owner of ADSs. Please remember that summaries by their nature lack the precision of the information summarized and that the rights and obligations of an owner of ADSs will be determined by reference to the terms of the deposit agreement and not by this summary. We urge you to review the deposit agreement in its entirety. The portions of this summary description that are italicized describe matters that may be relevant to the ownership of ADSs but that may not be contained in the deposit agreement.

Each ADS represents the right to receive, and to exercise the beneficial ownership interests in, ordinary shares that are on deposit with the depository bank and/or custodian. An ADS also represents the right to receive, and to exercise the beneficial interests in, any other property received by the depository bank or the custodian on behalf of the owner of the ADS but that has not been distributed to the owners of ADSs because of legal restrictions or practical considerations. We and the depository bank may agree to change the ADS-to-Share ratio by amending the deposit agreement. This amendment may give rise to, or change, the depository fees payable by ADS owners. The custodian, the depository bank and their respective nominees will hold all deposited property for the benefit of the holders and beneficial owners of ADSs. The deposited property does not constitute the proprietary assets of the depository bank, the custodian or their nominees. Beneficial ownership in the deposited property will under the terms of the deposit agreement be vested in the beneficial owners of the ADSs. The depository bank, the custodian and their respective nominees will be the record holders of the deposited property represented by the ADSs for the benefit of the holders and beneficial owners of the corresponding ADSs. A beneficial owner of ADSs may or may not be the holder of ADSs. Beneficial owners of ADSs will be able to receive, and to exercise beneficial ownership interests in, the deposited property only through the registered holders of the ADSs, the registered holders of the ADSs (on behalf of the applicable ADS owners) only through the depository bank, and

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the depositary bank (on behalf of the owners of the corresponding ADSs) directly, or indirectly, through the custodian or their respective nominees, in each case upon the terms of the deposit agreement.

If you become an owner of ADSs, you will become a party to the deposit agreement and therefore will be bound to its terms and to the terms of any ADR that represents your ADSs. The deposit agreement and the ADR specify our rights and obligations as well as your rights and obligations as owner of ADSs and those of the depositary bank. As an ADS holder you appoint the depositary bank to act on your behalf in certain circumstances. The deposit agreement and the ADRs are governed by New York law. However, our obligations to the holders of ordinary shares will continue to be governed by the laws of England and Wales, which may be different from the laws of the United States.

In addition, applicable laws and regulations may require you to satisfy reporting requirements and obtain regulatory approvals in certain circumstances. You are solely responsible for complying with such reporting requirements and obtaining such approvals. Neither the depositary bank, the custodian, us or any of their or our respective agents or affiliates shall be required to take any actions whatsoever on your behalf to satisfy such reporting requirements or obtain such regulatory approvals under applicable laws and regulations.

As an owner of ADSs, we will not treat you as one of our shareholders and you will not have direct shareholder rights. The depositary bank will hold on your behalf the shareholder rights attached to the ordinary shares underlying your ADSs. As an owner of ADSs you will be able to exercise the shareholders rights for the ordinary shares represented by your ADSs through the depositary bank only to the extent contemplated in the deposit agreement. To exercise any shareholder rights not contemplated in the deposit agreement you will, as an ADS owner, need to arrange for the cancellation of your ADSs and become a direct shareholder.

The manner in which you own the ADSs (e.g., in a brokerage account vs. as registered holder, or as holder of certificated vs. uncertificated ADSs) may affect your rights and obligations, and the manner in which, and extent to which, the depositary bank's services are made available to you. As an owner of ADSs, you may hold your ADSs either by means of an ADR registered in your name, through a brokerage or safekeeping account, or through an account established by the depositary bank in your name reflecting the registration of uncertificated ADSs directly on the books of the depositary bank (commonly referred to as the "direct registration system" or "DRS"). The direct registration system reflects the uncertificated (book-entry) registration of ownership of ADSs by the depositary bank. Under the direct registration system, ownership of ADSs is evidenced by periodic statements issued by the depositary bank to the holders of the ADSs. The direct registration system includes automated transfers between the depositary bank and The Depository Trust Company ("DTC"), the central book-entry clearing and settlement system for equity securities in the United States. If you decide to hold your ADSs through your brokerage or safekeeping account, you must rely on the procedures of your broker or bank to assert your rights as ADS owner. Banks and brokers typically hold securities such as the ADSs through clearing and settlement systems such as DTC. The procedures of such clearing and settlement systems may limit your ability to exercise your rights as an owner of ADSs. Please consult with your broker or bank if you have any questions concerning these limitations and procedures. All ADSs held through DTC will be registered in the name of a nominee of DTC. This summary description assumes you have opted to own the ADSs directly by means of an ADS registered in your name and, as such, we will refer to you as the "holder." When we refer to "you," we assume the reader owns ADSs and will own ADSs at the relevant time.

The registration of the ordinary shares in the name of the depositary bank or the custodian shall, to the maximum extent permitted by applicable law, vest in the depositary bank or the custodian the record ownership in the applicable ordinary shares with the beneficial ownership rights and interests in such ordinary shares being at all times vested with the beneficial owners of the ADSs representing the ordinary shares. The depositary bank or the custodian shall at all times be entitled to exercise the beneficial ownership rights in all deposited property, in each case only on behalf of the holders and beneficial owners of the ADSs representing the deposited property.

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Dividends and Distributions

As a holder of ADSs, you generally have the right to receive the distributions we make on the securities deposited with the custodian. Your receipt of these distributions may be limited, however, by practical considerations and legal limitations. Holders of ADSs will receive such distributions under the terms of the deposit agreement in proportion to the number of ADSs held as of the specified record date, after deduction of the applicable fees, taxes and expenses.

Distributions of Cash

Whenever we make a cash distribution for the securities on deposit with the custodian, we will deposit the funds with the custodian. Upon receipt of confirmation of the deposit of the requisite funds, the depository bank will arrange for the funds received in a currency other than U.S. dollars to be converted into U.S. dollars and for the distribution of the U.S. dollars to the holders, subject to the laws and regulations of England and Wales.

The conversion into U.S. dollars will take place only if practicable and if the U.S. dollars are transferable to the United States. The depository bank will apply the same method for distributing the proceeds of the sale of any property (such as undistributed rights) held by the custodian in respect of securities on deposit.

The distribution of cash will be made net of the fees, expenses, taxes and governmental charges payable by holders under the terms of the deposit agreement. The depository bank will hold any cash amounts it is unable to distribute in a non-interest bearing account for the benefit of the applicable holders and beneficial owners of ADSs until the distribution can be effected or the funds that the depository bank holds must be escheated as unclaimed property in accordance with the laws of the relevant states of the United States.

Distributions of Shares

Whenever we make a free distribution of ordinary shares for the securities on deposit with the custodian, we will deposit the applicable number of ordinary shares with the custodian. Upon receipt of confirmation of such deposit, the depository bank will either distribute to holders new ADSs representing the ordinary shares deposited or modify the ADS-to-ordinary shares ratio, in which case each ADS you hold will represent rights and interests in the additional ordinary shares so deposited. Only whole new ADSs will be distributed. Fractional entitlements will be sold and the proceeds of such sale will be distributed as in the case of a cash distribution.

The distribution of new ADSs or the modification of the ADS-to-ordinary shares ratio upon a distribution of ordinary shares will be made net of the fees, expenses, taxes and governmental charges payable by holders under the terms of the deposit agreement. In order to pay such taxes or governmental charges, the depository bank may sell all or a portion of the new ordinary shares so distributed.

No such distribution of new ADSs will be made if it would violate a law (*e.g.*, the U.S. securities laws) or if it is not operationally practicable. If the depository bank does not distribute new ADSs as described above, it may sell the ordinary shares received upon the terms described in the deposit agreement and will distribute the proceeds of the sale as in the case of a distribution of cash.

Distributions of Rights

Whenever we intend to distribute rights to subscribe for additional ordinary shares, we will give prior notice to the depository bank and we will assist the depository bank in determining whether it is lawful and reasonably practicable to distribute rights to subscribe for additional ADSs to holders.

The depository bank will establish procedures to distribute rights to subscribe for additional ADSs to holders and to enable such holders to exercise such rights if it is lawful and reasonably practicable to make the rights

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available to holders of ADSs, and if we provide all of the documentation contemplated in the deposit agreement (such as opinions to address the lawfulness of the transaction). You may have to pay fees, expenses, taxes and other governmental charges to subscribe for the new ADSs upon the exercise of your rights. The depositary bank is not obligated to establish procedures to facilitate the distribution and exercise by holders of rights to subscribe for new ordinary shares other than in the form of ADSs.

The depositary bank will *not* distribute the rights to you if:

- We do not timely request that the rights be distributed to you or we request that the rights not be distributed to you; or
- We fail to deliver satisfactory documents to the depositary bank; or
- It is not reasonably practicable to distribute the rights.

The depositary bank will sell the rights that are not exercised or not distributed if such sale is lawful and reasonably practicable. The proceeds of such sale will be distributed to holders as in the case of a cash distribution. If the depositary bank is unable to sell the rights, it will allow the rights to lapse.

Elective Distributions

Whenever we intend to distribute a dividend payable at the election of shareholders either in cash or in additional shares, we will give prior notice thereof to the depositary bank and will indicate whether we wish the elective distribution to be made available to you. In such case, we will assist the depositary bank in determining whether such distribution is lawful and reasonably practicable.

The depositary bank will make the election available to you only if it is reasonably practicable and if we have provided all of the documentation contemplated in the deposit agreement. In such case, the depositary bank will establish procedures to enable you to elect to receive either cash or additional ADSs, in each case as described in the deposit agreement.

If the election is not made available to you, you will receive either cash or additional ADSs, depending on what a shareholder in England and Wales would receive upon failing to make an election, as more fully described in the deposit agreement.

Other Distributions

Whenever we intend to distribute property other than cash, ordinary shares or rights to subscribe for additional ordinary shares, we will notify the depositary bank in advance and will indicate whether we wish such distribution to be made to you. If so, we will assist the depositary bank in determining whether such distribution to holders is lawful and reasonably practicable.

If it is reasonably practicable to distribute such property to you and if we provide to the depositary bank all of the documentation contemplated in the deposit agreement, the depositary bank will distribute the property to the holders in a manner it deems practicable.

The distribution will be made net of fees, expenses, taxes and governmental charges payable by holders under the terms of the deposit agreement. In order to pay such taxes and governmental charges, the depositary bank may sell all or a portion of the property received.

The depositary bank will *not* distribute the property to you and will sell the property if:

- We do not request that the property be distributed to you or if we request that the property not be distributed to you; or

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- We do not deliver satisfactory documents to the depository bank; or
- The depository bank determines that all or a portion of the distribution to you is not reasonably practicable.

The proceeds of such a sale will be distributed to holders as in the case of a cash distribution.

Redemption

Whenever we decide to redeem any of the securities on deposit with the custodian, we will notify the depository bank in advance. If it is practicable and if we provide all of the documentation contemplated in the deposit agreement, the depository bank will provide notice of the redemption to the holders.

The custodian will be instructed to surrender the shares being redeemed against payment of the applicable redemption price. The depository bank will convert into U.S. dollars, upon the terms of the deposit agreement, the redemption funds received in a currency other than U.S. dollars and will establish procedures to enable holders to receive the net proceeds from the redemption upon surrender of their ADSs to the depository bank. You may have to pay fees, expenses, taxes and other governmental charges upon the redemption of your ADSs. If less than all ADSs are being redeemed, the ADSs to be retired will be selected by lot or on a *pro rata* basis, as the depository bank may determine.

Changes Affecting Ordinary Shares

The ordinary shares held on deposit for your ADSs may change from time to time. For example, there may be a change in nominal or par value, split-up, cancellation, consolidation or any other reclassification of such ordinary shares or a recapitalization, reorganization, merger, consolidation or sale of assets of the company.

If any such change were to occur, your ADSs would, to the extent permitted by law and the deposit agreement, represent the right to receive the property received or exchanged in respect of the ordinary shares held on deposit.

The depository bank may in such circumstances deliver new ADSs to you, amend the deposit agreement, the ADRs and the applicable Registration Statement(s) on Form F-6, call for the exchange of your existing ADSs for new ADSs and take any other actions that are appropriate to reflect as to the ADSs the change affecting the ordinary shares. If the depository bank may not lawfully distribute such property to you, the depository bank may sell such property and distribute the net proceeds to you as in the case of a cash distribution.

Issuance of ADSs upon Deposit of Ordinary Shares

Upon effectiveness of this registration statement, the ordinary shares will be deposited by us with the custodian. Upon receipt of confirmation of such deposit, the depository bank will issue ADSs to the underwriters named in the registration statement.

After the effectiveness of this registration statement, the depository bank may create ADSs on your behalf if you or your broker deposit ordinary shares with the custodian. The depository bank will deliver these ADSs to the person you indicate only after you pay any applicable issuance fees and any charges and taxes payable for the transfer of the ordinary shares to the custodian. Your ability to deposit ordinary shares and receive ADSs may be limited by U.S. and English legal considerations applicable at the time of deposit.

The issuance of ADSs may be delayed until the depository bank or the custodian receives confirmation that all required approvals have been given and that the ordinary shares have been duly transferred to the custodian. The depository bank will only issue ADSs in whole numbers.

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When you make a deposit of ordinary shares, you will be responsible for transferring good and valid title to the depository bank. As such, you will be deemed to represent and warrant that:

- The ordinary shares are duly authorized, validly issued, fully paid, non-assessable and legally obtained.
- All preemptive (and similar) rights, if any, with respect to such ordinary shares have been validly waived or exercised.
- You are duly authorized to deposit the ordinary shares.
- The ordinary shares presented for deposit are free and clear of any lien, encumbrance, security interest, charge, mortgage or adverse claim, and are not, and the ADSs issuable upon such deposit will not be, “restricted securities” (as defined in the deposit agreement).
- The ordinary shares presented for deposit have not been stripped of any rights or entitlements.

If any of the representations or warranties are incorrect in any way, we and the depository bank may, at your cost and expense, take any and all actions necessary to correct the consequences of the misrepresentations.

Transfer, Combination and Split Up of ADRs

As an ADR holder, you will be entitled to transfer, combine or split up your ADRs and the ADSs evidenced thereby. For transfers of ADRs, you will have to surrender the ADRs to be transferred to the depository bank and also must:

- ensure that the surrendered ADR is properly endorsed or otherwise in proper form for transfer;
- provide such proof of identity and genuineness of signatures as the depository bank deems appropriate;
- provide any transfer stamps required by the State of New York or the United States; and
- pay all applicable fees, charges, expenses, taxes and other government charges payable by ADR holders pursuant to the terms of the deposit agreement, upon the transfer of ADRs.

To have your ADRs either combined or split up, you must surrender the ADRs in question to the depository bank with your request to have them combined or split up, and you must pay all applicable fees, charges and expenses payable by ADR holders, pursuant to the terms of the deposit agreement, upon a combination or split up of ADRs.

Withdrawal of Ordinary Shares Upon Cancellation of ADSs

As a holder, you will be entitled to present your ADSs to the depository bank for cancellation and then receive the corresponding number of underlying ordinary shares at the custodian’s offices. Your ability to withdraw the ordinary shares held in respect of the ADSs may be limited by U.S. and English law considerations applicable at the time of withdrawal. In order to withdraw the ordinary shares represented by your ADSs, you will be required to pay to the depository bank the fees for cancellation of ADSs and any charges and taxes payable upon the transfer of the ordinary shares. You assume the risk for delivery of all funds and securities upon withdrawal. Once canceled, the ADSs will not have any rights under the deposit agreement.

If you hold ADSs registered in your name, the depository bank may ask you to provide proof of identity and genuineness of any signature and such other documents as the depository bank may deem appropriate before it will cancel your ADSs. The withdrawal of the ordinary shares represented by your ADSs may be delayed until the depository bank receives satisfactory evidence of compliance with all applicable laws and regulations. Please keep in mind that the depository bank will only accept ADSs for cancellation that represent a whole number of securities on deposit.

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You will have the right to withdraw the securities represented by your ADSs at any time except for:

- Temporary delays that may arise because (i) the transfer books for the ordinary shares or ADSs are closed, or (ii) ordinary shares are immobilized on account of a shareholders' meeting or a payment of dividends.
- Obligations to pay fees, taxes and similar charges.
- Restrictions imposed because of laws or regulations applicable to ADSs or the withdrawal of securities on deposit.

The deposit agreement may not be modified to impair your right to withdraw the securities represented by your ADSs except to comply with mandatory provisions of law.

Each holder and beneficial owner of ADSs agrees to provide such information as the company may request in a disclosure notice given pursuant to the U.K. Companies Act 2006, as amended, or the Companies Act, or the Articles of Association. Each holder and beneficial owner of ADSs acknowledges that it understands that failure to comply with such request may result in the imposition of sanctions against the holder of the ordinary shares in respect of which the non-complying person is or was, or appears to be or has been, interested as provided in the Companies Act and the Articles of Association which currently include, the withdrawal of the voting rights of such Shares and the imposition of restrictions on the rights to receive dividends on and to transfer such Shares.

Voting Rights

As a holder, you generally have the right under the deposit agreement to instruct the depositary bank to exercise the voting rights for the ordinary shares represented by your ADSs. The voting rights of holders of ordinary shares are described in "Description of Share Capital and Articles of Association—Articles of Association."

At our request, the depositary bank will distribute to you any notice of shareholders' meeting received from us together with information explaining how to instruct the depositary bank to exercise the voting rights of the securities represented by ADSs. In lieu of distributing such materials, the depositary bank may distribute to holders of ADSs instructions on how to retrieve such materials upon request.

If the depositary bank timely receives voting instructions from a holder of ADSs, it will endeavor to vote the securities (in person or by proxy) represented by the holder's ADSs as follows:

- In the event of voting by show of hands, the depositary bank will vote (or cause the custodian to vote) all ordinary shares held on deposit at that time in accordance with the voting instructions received from a majority of holders of ADSs who provide timely voting instructions.
- In the event of voting by poll, the depositary bank will vote (or cause the Custodian to vote) the ordinary shares held on deposit in accordance with the voting instructions received from the holders of ADSs.

Securities for which no voting instructions have been received will not be voted (except as otherwise contemplated in the deposit agreement). Please note that the ability of the depositary bank to carry out voting instructions may be limited by practical and legal limitations and the terms of the securities on deposit. We cannot assure you that you will receive voting materials in time to enable you to return voting instructions to the depositary bank in a timely manner.

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Fees and Charges

As an ADS holder, you will be required to pay the following fees under the terms of the deposit agreement:

<u>SERVICE</u>	<u>FEES</u>
• Issuance of ADSs (e.g., an issuance of ADS upon a deposit of ordinary shares, upon a change in the ADS(s)-to-ordinary share(s) ratio, or for any other reason), excluding ADS issuances as a result of distributions of ordinary shares)	Up to U.S.\$0.05 per ADS issued
• Cancellation of ADSs (e.g., a cancellation of ADSs for delivery of deposited property, upon a change in the ADS(s)-to-ordinary share(s) ratio, or for any other reason)	Up to U.S.\$0.05 per ADS cancelled
• Distribution of cash dividends or other cash distributions (e.g., upon a sale of rights and other entitlements)	Up to U.S.\$0.05 per ADS held
• Distribution of ADSs pursuant to (i) share dividends or other free share distributions, or (ii) exercise of rights to purchase additional ADSs	Up to U.S.\$0.05 per ADS held
• Distribution of securities other than ADSs or rights to purchase additional ADSs (e.g., upon a spin-off)	Up to U.S.\$0.05 per ADS held
• ADS Services	Up to U.S.\$0.05 per ADS held on the applicable record date(s) established by the depositary bank
• Registration of ADS transfers (e.g., upon a registration of the transfer of registered ownership of ADSs, upon a transfer of ADSs into DTC and <i>vice versa</i> , or for any other reason)	Up to U.S.\$0.05 per ADS (or fraction thereof) transferred
• Conversion of ADSs of one series for ADSs of another series (e.g., upon conversion of partial entitlement ADSs for full entitlement ADSs, or upon conversion of restricted ADSs (each as defined in the deposit agreement) into freely transferable ADSs, and <i>vice versa</i>).	Up to U.S.\$0.05 per ADS (or fraction thereof) converted

As an ADS holder you will also be responsible to pay certain charges such as:

- taxes (including applicable interest and penalties) and other governmental charges;
- the registration fees as may from time to time be in effect for the registration of ordinary shares on the share register and applicable to transfers of ordinary shares to or from the name of the custodian, the depositary bank or any nominees upon the making of deposits and withdrawals, respectively;
- certain cable, telex and facsimile transmission and delivery expenses;
- the fees, expenses, spreads, taxes and other charges of the depositary bank and/or service providers (which may be a division, branch or affiliate of the depositary bank) in the conversion of foreign currency;
- the reasonable and customary out-of-pocket expenses incurred by the depositary bank in connection with compliance with exchange control regulations and other regulatory requirements applicable to ordinary shares, ADSs and ADRs; and

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- the fees, charges, costs and expenses incurred by the depositary bank, the custodian, or any nominee in connection with the ADR program.

ADS fees and charges for (i) the issuance of ADSs, and (ii) the cancellation of ADSs are charged to the person for whom the ADSs are issued (in the case of ADS issuances) and to the person for whom ADSs are cancelled (in the case of ADS cancellations). In the case of ADSs issued by the depositary bank into DTC, the ADS issuance and cancellation fees and charges may be deducted from distributions made through DTC, and may be charged to the DTC participant(s) receiving the ADSs being issued or the DTC participant(s) holding the ADSs being cancelled, as the case may be, on behalf of the beneficial owner(s) and will be charged by the DTC participant(s) to the account of the applicable beneficial owner(s) in accordance with the procedures and practices of the DTC participants as in effect at the time. ADS fees and charges in respect of distributions and the ADS service fee are charged to the holders as of the applicable ADS record date. In the case of distributions of cash, the amount of the applicable ADS fees and charges is deducted from the funds being distributed. In the case of (i) distributions other than cash and (ii) the ADS service fee, holders as of the ADS record date will be invoiced for the amount of the ADS fees and charges and such ADS fees and charges may be deducted from distributions made to holders of ADSs. For ADSs held through DTC, the ADS fees and charges for distributions other than cash and the ADS service fee may be deducted from distributions made through DTC, and may be charged to the DTC participants in accordance with the procedures and practices prescribed by DTC and the DTC participants in turn charge the amount of such ADS fees and charges to the beneficial owners for whom they hold ADSs. In the case of (i) registration of ADS transfers, the ADS transfer fee will be payable by the ADS Holder whose ADSs are being transferred or by the person to whom the ADSs are transferred, and (ii) conversion of ADSs of one series for ADSs of another series, the ADS conversion fee will be payable by the Holder whose ADSs are converted or by the person to whom the converted ADSs are delivered.

In the event of refusal to pay the depositary bank fees, the depositary bank may, under the terms of the deposit agreement, refuse the requested service until payment is received or may set off the amount of the depositary bank fees from any distribution to be made to the ADS holder. Certain depositary fees and charges (such as the ADS services fee) may become payable shortly after the purchase of ADSs. Note that the fees and charges you may be required to pay may vary over time and may be changed by us and by the depositary bank. You will receive prior notice of such changes. The depositary bank may reimburse us for certain expenses incurred by us in respect of the ADR program, by making available a portion of the ADS fees charged in respect of the ADR program or otherwise, upon such terms and conditions as we and the depositary bank agree from time to time.

Amendments and Termination

We may agree with the depositary bank to modify the deposit agreement at any time without your consent. We undertake to give holders 30 days' prior notice of any modifications that would materially prejudice any of their substantial rights under the deposit agreement. We will not consider to be materially prejudicial to your substantial rights any modifications or supplements that are reasonably necessary for the ADSs to be registered under the Securities Act or to be eligible for book-entry settlement, in each case without imposing or increasing the fees and charges you are required to pay. In addition, we may not be able to provide you with prior notice of any modifications or supplements that are required to accommodate compliance with applicable provisions of law.

You will be bound by the modifications to the deposit agreement if you continue to hold your ADSs after the modifications to the deposit agreement become effective. The deposit agreement cannot be amended to prevent you from withdrawing the ordinary shares represented by your ADSs (except as permitted by law).

We have the right to direct the depositary bank to terminate the deposit agreement. Similarly, the depositary bank may in certain circumstances on its own initiative terminate the deposit agreement. In either case, the depositary bank must give notice to the holders at least 30 days before termination. Until termination, your rights under the deposit agreement will be unaffected.

This draft registration statement has not been publicly filed with the Securities and Exchange Commission and all information herein remains strictly confidential.

Termination

After termination, the depositary bank will continue to collect distributions received (but will not distribute any such property until you request the cancellation of your ADSs) and may sell the securities held on deposit. After the sale, the depositary bank will hold the proceeds from such sale and any other funds then held for the holders of ADSs in a non-interest bearing account. At that point, the depositary bank will have no further obligations to holders other than to account for the funds then held for the holders of ADSs still outstanding (after deduction of applicable fees, taxes and expenses).

In connection with any termination of the deposit agreement, the depositary bank may make available to owners of ADSs a means to withdraw the ordinary shares represented by ADSs and to direct the depositary of such ordinary shares into an unsponsored American depositary share program established by the depositary bank. The ability to receive unsponsored American depositary shares upon termination of the deposit agreement would be subject to satisfaction of certain U.S. regulatory requirements applicable to the creation of unsponsored American depositary shares and the payment of applicable depositary fees.

Books of Depositary

The depositary bank will maintain ADS holder records at its depositary office. You may inspect such records at such office during regular business hours but solely for the purpose of communicating with other holders in the interest of business matters relating to the ADSs and the deposit agreement.

The depositary bank will maintain in New York facilities to record and process the issuance, cancellation, combination, split-up and transfer of ADSs. These facilities may be closed from time to time, to the extent not prohibited by law.

Limitations on Obligations and Liabilities

The deposit agreement limits our obligations and the depositary bank's obligations to you. Please note the following:

- We and the depositary bank are obligated only to take the actions specifically stated in the deposit agreement without negligence or bad faith.
- The depositary bank disclaims any liability for any failure to carry out voting instructions, for any manner in which a vote is cast or for the effect of any vote, provided it acts in good faith and in accordance with the terms of the deposit agreement.
- The depositary bank disclaims any liability for any failure to determine the lawfulness or practicality of any action, for the content of any document forwarded to you on our behalf or for the accuracy of any translation of such a document, for the investment risks associated with investing in ordinary shares, for the validity or worth of the ordinary shares, for any tax consequences that result from the ownership of ADSs, for the credit-worthiness of any third party, for allowing any rights to lapse under the terms of the deposit agreement, for the timeliness of any of our notices or for our failure to give notice.
- We and the depositary bank will not be obligated to perform any act that is inconsistent with the terms of the deposit agreement.
- We and the depositary bank disclaim any liability if we or the depositary bank are prevented or forbidden from or subject to any civil or criminal penalty or restraint on account of, or delayed in, doing or performing any act or thing required by the terms of the deposit agreement, by reason of any provision, present or future of any law or regulation, or by reason of present or future provision of any provision of our Articles of Association, or any provision of or governing the securities on deposit, or by reason of any act of God or war or other circumstances beyond our control.

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- We and the depositary bank disclaim any liability by reason of any exercise of, or failure to exercise, any discretion provided for in the deposit agreement or in our Articles of Association or in any provisions of or governing the securities on deposit.
- We and the depositary bank further disclaim any liability for any action or inaction in reliance on the advice or information received from legal counsel, accountants, any person presenting Shares for deposit, any holder of ADSs or authorized representatives thereof, or any other person believed by either of us in good faith to be competent to give such advice or information.
- We and the depositary bank also disclaim liability for the inability by a holder to benefit from any distribution, offering, right or other benefit that is made available to holders of ordinary shares but is not, under the terms of the deposit agreement, made available to you.
- We and the depositary bank may rely without any liability upon any written notice, request or other document believed to be genuine and to have been signed or presented by the proper parties.
- We and the depositary bank also disclaim liability for any consequential or punitive damages for any breach of the terms of the deposit agreement.
- No disclaimer of any Securities Act liability is intended by any provision of the deposit agreement.
- Nothing in the deposit agreement gives rise to a partnership or joint venture, or establishes a fiduciary relationship, among us, the depositary bank and you as ADS holder.
- Nothing in the deposit agreement precludes Citibank, N.A. (or its affiliates) from engaging in transactions in which parties adverse to us or the holders or beneficial owners of ADS have interests, and nothing in the deposit agreement obligates Citibank, N.A. to disclose those transactions, or any information obtained in the course of those transactions, to us or to the holders or beneficial owners of ADS, or to account for any payment received as part of those transactions.

Taxes

You will be responsible for the taxes and other governmental charges payable on the ADSs and the securities represented by the ADSs. We, the depositary bank and the custodian may deduct from any distribution the taxes and governmental charges payable by holders and may sell any and all property on deposit to pay the taxes and governmental charges payable by holders. You will be liable for any deficiency if the sale proceeds do not cover the taxes that are due.

The depositary bank may refuse to issue ADSs, to deliver, transfer, split and combine ADRs or to release securities on deposit until all taxes and charges are paid by the applicable holder. The depositary bank and the custodian may take reasonable administrative actions to obtain tax refunds and reduced tax withholding for any distributions on your behalf. However, you may be required to provide to the depositary bank and to the custodian proof of taxpayer status and residence and such other information as the depositary bank and the custodian may require to fulfill legal obligations. You are required to indemnify us, the depositary bank and the custodian for any claims with respect to taxes based on any tax benefit obtained for you.

Foreign Currency Conversion

The depositary bank will arrange for the conversion of all foreign currency received into U.S. dollars if such conversion is practical, and it will distribute the U.S. dollars in accordance with the terms of the deposit agreement. You may have to pay fees and expenses incurred in converting foreign currency, such as fees and expenses incurred in complying with currency exchange controls and other governmental requirements.

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If the conversion of foreign currency is not practical or lawful, or if any required approvals are denied or not obtainable at a reasonable cost or within a reasonable period, the depositary bank may take the following actions in its discretion:

- Convert the foreign currency to the extent practical and lawful and distribute the U.S. dollars to the holders for whom the conversion and distribution is lawful and practical.
- Distribute the foreign currency to holders for whom the distribution is lawful and practical.
- Hold the foreign currency (without liability for interest) for the applicable holders.

Governing Law/Waiver of Jury Trial

The deposit agreement, the ADRs, and the ADSs will be interpreted in accordance with the laws of the State of New York. The rights of holders of ordinary shares (including ordinary shares represented by ADSs) is governed by the laws of England and Wales.

AS A PARTY TO THE DEPOSIT AGREEMENT, YOU IRREVOCABLY WAIVE, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, YOUR RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF, OR RELATING TO, THE DEPOSIT AGREEMENT OR THE ADRs, OR ANYTHING CONTAINED THEREIN AGAINST US AND/OR THE DEPOSITARY.

The deposit agreement provides that, to the extent permitted by law, ADS holders waive the right to a jury trial of any claim they may have against us or the depositary arising out of or relating to our ordinary shares, the ADSs or the deposit agreement, including any claim under U.S. federal securities laws. If we or the depositary opposed a jury trial demand based on the waiver, the court would determine whether the waiver was enforceable in the facts and circumstances of that case in accordance with applicable case law. However, you will not be deemed, by agreeing to the terms of the deposit agreement, to have waived our or the depositary's compliance with U.S. federal securities laws and the rules and regulations promulgated thereunder.

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PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

Not applicable.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

Not applicable.

ITEM 15. CONTROLS AND PROCEDURES

Not applicable.

ITEM 16. RESERVED

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

Not applicable.

ITEM 16B. CODE OF ETHICS

Not applicable.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Not applicable.

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

Not applicable.

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

Not applicable.

ITEM 16F. CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT

Not applicable.

ITEM 16G. CORPORATE GOVERNANCE

Not applicable.

ITEM 16H. MINE SAFETY DISCLOSURE

Not applicable.

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PART III

ITEM 17. FINANCIAL STATEMENTS

We have elected to furnish financial statements and related information specified in Item 18.

ITEM 18. FINANCIAL STATEMENTS

See pages F-1 through F-112 of this registration statement.

ITEM 19. EXHIBITS

The Exhibits listed in the Exhibit Index at the end of this annual report are filed as Exhibits to this annual report.

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EXHIBIT INDEX

EXHIBIT NUMBER	<u>DESCRIPTION OF EXHIBIT</u>
3.1	Articles of Association of the Registrant
4.1*	Form of Deposit Agreement
4.2*	Form of American Depositary Receipt (included in Exhibit 4.1)
10.1#*	Performance Share Plan
10.2#*	Form of Incentive Stock Option Deed of Agreement under the Performance Share Plan
10.3#*	Form of Form of Nonstatutory Stock Option Deed of Agreement under the Performance Share Plan
10.4#*	Form of Restricted Share Units Agreement under the Performance Share Plan
10.5	Lease Agreement, dated as of August 10, 2018, by and between the Registrant and RBK 1 TENANT, LLC
10.6#*	Form of Deed of Indemnity between the Registrant and each of its directors and executive officers
10.7†	Asset Purchase Agreement, dated July 15, 2019, by and between Auspex Pharmaceuticals, Inc. and PureTech Health LLC
10.8*†	Exclusive Patent License Agreement, dated as of July 16, 2008, by and between PureTech Ventures LLC and Follica, Incorporated
10.9†	Royalty Agreement, dated as of July 23, 2013, by and between PureTech Ventures LLC and Follica, Incorporated
10.10	Royalty and Sublicense Income Agreement, dated as of December 18, 2009, as amended on June 28, 2012, by and between PureTech Ventures LLC, Gelesis, Inc. and Gelesis LP
10.11†	Exclusive Patent License Agreement, dated as of March 4, 2011, as amended on February 1, 2013 and February 25, 2015, by and between PureTech Ventures LLC and Karuna Pharmaceuticals, Inc.
10.12	Relationship Agreement, dated as of June 18, 2015, by and between PureTech Health PLC and Invesco Asset Management Limited
10.13*†	Ninth Amended and Restated Registration Rights Agreement, dated December 5, 2019, between Gelesis, Inc. and the stockholders party thereto
10.14*†	Ninth Amended and Restated Stockholders Agreement, dated December 5, 2019, between Gelesis, Inc. and the stockholders and executives party thereto
10.15*†	Second Amended and Restated Investors' Rights Agreement, dated May 8, 2018, between Akili Interactive Labs, Inc. and the stockholders party thereto
10.16*†	Amended and Restated First Refusal and Co-Sale Agreement, dated May 8, 2018, between Akili Interactive Labs, Inc. and the investors party thereto
10.17*†	Amended and Restated Investors' Rights Agreement, dated December 21, 2018, as amended on April 19, 2019, May 3, 2019 and September 11, 2019 by and among Vedanta Biosciences, Inc. and the stockholders party thereto
10.18*†	Fifth Amended and Restated Investors' Rights Agreement, dated July 19, 2019, by and among Follica, Incorporated and the investors party thereto

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<u>EXHIBIT NUMBER</u>	<u>DESCRIPTION OF EXHIBIT</u>
10.19*†	Fifth Amended and Restated Right of First Refusal and Co-Sale Agreement, dated July 19, 2019, by and among Follica, Incorporated and the investors and key holders party thereto
10.20*†	Fifth Amended and Restated Voting Agreement, dated July 19, 2019, between Follica, Incorporated and the stockholders party thereto
10.21*†	Amended and Restated Voting Agreement, dated June 30, 2020, between Vor Biopharma Inc. and the stockholders party thereto
10.22*†	Amended and Restated Investors' Rights Agreement, dated June 30, 2020, by and between Vor Biopharma Inc. and the investors party thereto
10.23*†	Amended and Restated Right of First Refusal and Co-Sale Agreement, dated June 30, 2020, by and between Vor Biopharma Inc. and the investors and key holders party thereto
10.24*†	Voting Agreement, dated April 9, 2019, between Sonde Health, Inc. and the stockholders party thereto
10.25*†	Investors' Rights Agreement, dated April 9, 2019, by and between Sonde Health, Inc. and the investors party thereto
10.26†*	Right of First Refusal and Co-Sale Agreement, dated April 9, 2019, by and between Sonde Health, Inc. and the investors and key holders party thereto
10.27†*	Voting Agreement, dated December 18, 2017, between Entrega, Inc. and the stockholders party thereto
10.28†*	Investors' Rights Agreement, dated December 18, 2017, by and between Entrega, Inc. and the investors party thereto
10.29†*	Right of First Refusal and Co-Sale Agreement, dated December 18, 2017, by and between Entrega, Inc. and the investors and key holders party thereto
10.30†*	Research and License Agreement, dated March 6, 2017, as amended on April 23, 2018, August 6, 2018, and May 31, 2019, between PureTech LYT, Inc. and New York University
21.1*	Subsidiaries of the Registrant
23.1*	Consent of KPMG LLP, independent registered public accounting firm

* To be filed by amendment.

Indicates a management contract or any compensatory plan, contract or arrangement.

† Portions of this exhibit (indicated by asterisks) have been omitted in accordance with the rules of the Securities and Exchange Commission.

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SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this registration statement on its behalf.

Date: _____, 2020

PURETECH HEALTH PLC

By: _____
Name: Daphne Zohar
Title: Chief Executive Officer

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This draft registration statement has not been publicly filed with the Securities and Exchange Commission and all information herein remains strictly confidential.

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Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of PureTech Health plc:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statements of financial position of PureTech Health plc and subsidiaries (the “Group”) as of December 31, 2019 and 2018, the related consolidated statements of comprehensive income/(loss), changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes (collectively, the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Group as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2019, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Basis for Opinion

These consolidated financial statements are the responsibility of the Group’s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Group in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Group’s auditor since 2015.

KPMG LLP

London, United Kingdom

22 September 2020

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Consolidated Statements of Comprehensive Income/(Loss)
For the years ended December 31,

	Note	2019 \$000s	2018 \$000s	2017 \$000s
Contract revenue	3	8,688	16,371	650
Grant revenue	3	1,119	4,377	1,885
Total revenue		9,807	20,748	2,535
Operating expenses:				
General and administrative expenses	7	(59,358)	(47,365)	(46,283)
Research and development expenses	7	(85,848)	(77,402)	(71,672)
Operating income/(loss)		(135,399)	(104,019)	(115,420)
Other income/(expense):				
Gain on deconsolidation	5	264,409	41,730	85,016
Gain/(loss) on investments held at fair value	5	(37,863)	(34,615)	57,334
Loss on impairment of intangible asset		—	(30)	—
Gain/(loss) on disposal of assets	11	(82)	4,060	—
Gain/(loss) on loss of significant influence	6	445,582	10,287	—
Other income/(expense)		121	(278)	14
Other income/(expense)		672,167	21,154	142,364
Finance income/(costs):				
Finance income	9	4,362	3,358	1,750
Finance income/(costs)—subsidiary preferred shares	9	(1,458)	(106)	(9,509)
Finance income/(costs)—contractual	9	(2,576)	34	(553)
Finance income/(costs)—fair value accounting	9	(46,475)	22,631	(71,735)
Net finance income/(costs)		(46,147)	25,917	(80,047)
Share of net gain/(loss) of associates accounted for using the equity method	6	30,791	(11,490)	(17,608)
Impairment of investment in associate	6	(42,938)	—	—
Income/(loss) before taxes		478,474	(68,438)	(70,711)
Taxation	25	(112,409)	(2,221)	(4,383)
Income/(Loss) for the year		366,065	(70,659)	(75,094)
Other comprehensive income/(loss):				
<i>Items that are or may be reclassified as profit or loss</i>				
Foreign currency translation differences		(10)	(214)	408
Unrealized gain/(loss) on investments held at fair value		—	(26)	1,750
Total other comprehensive income/(loss)		(10)	(240)	2,158
Total comprehensive income/(loss) for the year		366,055	(70,899)	(72,936)
Income/(loss) attributable to:				
Owners of the Company		421,144	(43,654)	26,472
Non-controlling interests	18	(55,079)	(27,005)	(101,566)
		366,065	(70,659)	(75,094)
Comprehensive income/(loss) attributable to:				
Owners of the Company		421,134	(43,894)	28,630
Non-controlling interests	18	(55,079)	(27,005)	(101,566)
		366,055	(70,899)	(72,936)
Earnings/(loss) per share:		\$	\$	\$
Basic earnings/(loss) per share	10	1.49	(0.16)	0.11
Diluted earnings/(loss) per share	10	1.44	(0.16)	0.11

The accompanying notes are an integral part of these financial statements.

**This draft registration statement has not been publicly filed with the Securities and Exchange Commission
and all information herein remains strictly confidential.**

Consolidated Statements of Financial Position
as of December 31,

	Note	2019 \$000s	2018 \$000s
Assets			
Non-current assets			
Property and equipment, net	11	21,455	8,323
Right of use asset, net	21	22,383	—
Intangible assets, net	12	625	3,080
Investments held at fair value	5	714,905	169,755
Investments in associates	6	10,642	—
Lease receivable—long-term	21	2,082	—
Deferred tax assets		142	449
Other non-current assets		99	370
Total non-current assets		772,333	181,977
Current assets			
Trade and other receivables		1,977	1,328
Prepaid expenses and other current assets		1,946	5,380
Lease receivable—short-term	21	350	—
Other financial assets	13, 22	2,124	2,199
Short-term investments	22	30,088	133,828
Cash and cash equivalents	22	132,360	117,051
Total current assets		168,845	259,786
Total assets		941,178	441,763
Equity and liabilities			
Equity			
Share capital	14	5,408	5,375
Share premium	14	287,962	278,385
Merger reserve	14	138,506	138,506
Translation reserve	14	—	10
Other reserve	14	(18,282)	20,923
Retained earnings/(accumulated deficit)	14	254,444	(167,692)
Equity attributable to the owners of the Company	14	668,038	275,507
Non-controlling interests	14, 18	(17,640)	(108,535)
Total equity	14	650,398	166,972
Non-current liabilities			
Deferred revenue	3	1,220	83
Deferred tax liability	25	115,445	6,428
Lease liability, non-current	21	34,914	—
Other long-term liabilities	20	—	2,516
Total non-current liabilities		151,579	9,027
Current liabilities			
Deferred revenue	3	5,474	6,560
Lease liability, current	21	2,929	—
Trade and other payables	19	19,842	15,875
Subsidiary:			
Notes payable	16, 17	1,455	12,010
Warrant liability	16	7,997	13,012
Preferred shares	15, 16	100,989	217,519
Other current liabilities		515	788
Total current liabilities		139,201	265,764
Total liabilities		290,780	274,791
Total equity and liabilities		941,178	441,763

The accompanying notes are an integral part of these financial statements.

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Consolidated Statements of Changes in Equity
For the years ended December 31,

	Share Capital		Share premium \$000s	Merger reserve \$000s	Translation reserve \$000s	Other reserve \$000s	Retained earnings/ (accumulated deficit) \$000s	Total Parent equity \$000s	Non- controlling interests \$000s	Total Equity \$000s
	Shares	Amount \$000s								
Balance January 1, 2017	237,387,951	4,609	181,658	138,506	(184)	13,412	(160,335)	177,666	(85,255)	92,411
Net income/(loss)	—	—	—	—	—	—	26,472	26,472	(101,566)	(75,094)
Foreign currency exchange	—	—	—	—	408	—	—	408	—	408
Unrealized gain on investments	—	—	—	—	—	—	1,750	1,750	—	1,750
Total comprehensive income/(loss) for the period	—	—	—	—	408	—	28,222	28,630	(101,566)	(72,936)
Gain/(loss) arising from change in non-controlling interests	—	—	—	—	—	(16)	—	(16)	28,449	28,433
Exercise of share-based awards	41,745	70	(70)	—	—	—	—	—	—	—
Subsidiary dividends	—	—	—	—	—	—	(91)	(91)	—	(91)
Buyback of shares, net of tax	—	—	—	—	—	—	(66)	(66)	—	(66)
Equity settled share-based payments	—	—	—	—	—	3,782	—	3,782	8,067	11,849
Balance December 31, 2017	237,429,696	4,679	181,588	138,506	224	17,178	(132,270)	209,905	(150,305)	59,600
Adjustment for the initial application of IFRS 9	—	—	—	—	—	—	7,525	7,525	4,719	12,244
Adjusted balance as of January 1, 2018	237,429,696	4,679	181,588	138,506	224	17,178	(124,745)	217,430	(145,586)	71,844
Net income/(loss)	—	—	—	—	—	—	(43,654)	(43,654)	(27,005)	(70,659)
Foreign currency exchange	—	—	—	—	(214)	—	—	(214)	—	(214)
Unrealized gain/(loss) on investments	—	—	—	—	—	—	(26)	(26)	—	(26)
Total comprehensive income/(loss) for the period	—	—	—	—	(214)	—	(43,680)	(43,894)	(27,005)	(70,899)
Deconsolidation of subsidiary	—	—	—	—	—	(4)	619	615	55,168	55,783
Issuance of placing shares	45,000,000	696	96,797	—	—	—	—	97,493	—	97,493
Exercise of share-based awards	64,171	—	—	—	—	—	122	122	—	122
Subsidiary dividends to non-controlling interests	—	—	—	—	—	—	(8)	(8)	—	(8)
Equity settled share-based payments	—	—	—	—	—	3,749	—	3,749	8,888	12,637
As at December 31, 2018	282,493,867	5,375	278,385	138,506	10	20,923	(167,692)	275,507	(108,535)	166,972
Adjustment for the initial application of IFRS16	—	—	—	—	—	—	999	999	—	999
Adjusted balance as of January 1, 2019	282,493,867	5,375	278,385	138,506	10	20,923	(166,693)	276,506	(108,535)	167,971
Net income/(loss)	—	—	—	—	—	—	421,144	421,144	(55,079)	366,065
Foreign currency exchange	—	—	—	—	(10)	—	—	(10)	—	(10)
Total comprehensive income/(loss) for the period	—	—	—	—	(10)	—	421,144	421,134	(55,079)	366,055
Deconsolidation of subsidiaries	—	—	—	—	—	—	—	—	97,178	97,178
Subsidiary note conversion and changes in NCI ownership interest	—	—	—	—	—	(20,631)	—	(20,631)	23,049	2,418

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	Share Capital			Merger reserve \$000s	Translation reserve \$000s	Other reserve \$000s	Retained earnings/ (accumulated deficit) \$000s	Total Parent equity \$000s	Non-controlling interests \$000s	Total Equity \$000s
	Shares	Amount \$000s	Share premium \$000s							
Exercise of share-based awards	237,090	5	499	—	—	—	—	504	—	504
Purchase of subsidiary's non-controlling interest through issuance of shares	2,126,338	28	9,078	—	—	(33,145)	—	(24,039)	24,039	—
Revaluation of deferred tax assets related to share-based awards	—	—	—	—	—	3,061	—	3,061	—	3,061
Equity settled share-based payments	—	—	—	—	—	12,785	—	12,785	1,683	14,468
Vesting of restricted stock units	513,324	—	—	—	—	(1,280)	—	(1,280)	—	(1,280)
Other	—	—	—	—	—	5	(7)	(2)	25	23
Balance December 31, 2019	285,370,619	5,408	287,962	138,506	—	(18,282)	254,444	668,038	(17,640)	650,398

The accompanying notes are an integral part of these financial statements.

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Consolidated Statements of Cash Flows
For the years ended December 31,

	Note	2019 \$000s	2018 \$000s	2017 \$000s
Cash flows from operating activities				
Income/(loss) for the year		366,065	(70,659)	(75,094)
Adjustments to reconcile net operating loss to net cash used in operating activities:				
Non-cash items:				
Depreciation and amortization	11, 12	6,665	2,778	2,099
Impairment of intangible assets		—	30	637
Impairment of investment in associate	6	42,938	—	—
Equity settled share-based payment expense	8	14,468	12,637	11,849
(Gain)/loss on investments held at fair value	5	37,863	20,307	(57,334)
(Gain)/loss on short-term investments		—	(843)	219
Gain on deconsolidation	5	(264,409)	(41,730)	(85,016)
Gain on loss of significant influence	5	(445,582)	(10,287)	—
Conversion of debt to equity		—	349	—
Disposal of assets	11	140	111	—
Proceeds from sale of assets	11	—	50	—
Share of net (income)/loss of associate	6	(30,791)	11,491	17,608
Non-cash share of net loss for deconsolidated subsidiary		—	—	8,027
Deferred income taxes	25	112,077	1,723	4,257
Subsidiary research and development tax credit		—	—	(1,152)
Non-cash rent expense		—	—	106
Unrealized (gain)/loss on foreign currency transactions		—	(271)	342
Finance costs, net	9	46,229	(8,446)	81,797
Changes in operating assets and liabilities:				
Accounts receivable	22	747	467	(1,672)
Other financial assets	13	(48)	(1,327)	(30)
Prepaid expenses and other current assets		(25)	774	168
Deferred revenues	3	186	4,841	(725)
Accounts payable and accrued expenses	19	11,166	5,094	5,238
Other liabilities		3,002	115	(9)
Interest received		3,648	—	—
Interest paid	21	(2,495)	—	—
Net cash used in operating activities		<u>(98,156)</u>	<u>(72,796)</u>	<u>(88,685)</u>
Cash flows from investing activities:				
Purchase of property and equipment	11	(12,138)	(4,365)	(2,091)
Proceeds from sale of property and equipment		—	125	—
Purchases of intangible assets	12	(400)	(125)	(80)
Purchase of associate preferred shares held at fair value	5, 6	(13,670)	(3,500)	—
Purchase of investments held at fair value	5	(1,556)	—	—
Sale of investments held at fair value	5	9,294	—	—
Purchase of convertible note	6	(6,480)	—	—
Cash derecognized upon loss of control over subsidiary		(16,036)	(13,390)	(16,340)
Purchases of short-term investments	22	(69,541)	(166,452)	(147,203)
Receipt of payment for finance sub-lease	21	191	—	—
Proceeds from maturity of short-term investments	22	173,995	148,062	249,396
Net cash provided by/(used in) investing activities		<u>63,659</u>	<u>(39,645)</u>	<u>83,682</u>
Cash flows from financing activities:				
Proceeds from issuance of convertible notes	18	1,606	6,147	2,616
Payment of lease liability	21	(1,678)	—	—
Repayment of long-term debt		(178)	(185)	(163)
Distribution to Tal shareholders	27	(112)	—	—
Exercise of stock options		504	—	—
Proceeds from the issuance of shares and subsidiary preferred shares	15	51,048	152,030	12,400
Vesting of restricted stock units		(1,280)	—	—
Buyback of shares		—	(35)	(66)
Distribution to shareholders on dissolution of subsidiary		—	(1,062)	—
Subsidiary dividend payments		—	(8)	(91)
Net cash provided by financing activities		<u>49,910</u>	<u>156,887</u>	<u>14,696</u>
Effect of exchange rates on cash and cash equivalents		(104)	(44)	(3)
Net increase in cash and cash equivalents		15,309	44,402	9,690
Cash and cash equivalents at beginning of year		117,051	72,649	62,959
Cash and cash equivalents at end of year		<u>132,360</u>	<u>117,051</u>	<u>72,649</u>
Supplemental disclosure of non-cash investment and financing activities:				
Purchase of non controlling interest in consideration for issuance of shares and options		9,106	—	—
Purchase of intangible asset and investment held at fair value in consideration for issuance of warrant liability and assumption of other long and short-term liabilities		15,894	—	—
Leasehold improvements purchased through lease incentives (deducted from Right of Use Asset)		10,680	—	—
Conversion of subsidiary convertible note into preferred share liabilities		4,894	—	1,306
Conversion of subsidiary convertible note into subsidiary common stock (NCI)		2,418	—	—
Supplemental disclosure of cash paid for income taxes:				
Cash paid for income taxes		176	92	—

The accompanying notes are an integral part of these financial statements.

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Notes to the Consolidated Financial Statements

1. Accounting policies

Description of Business

PureTech Health plc (“PureTech,” the “Parent” or the “Company”) is a public company incorporated, domiciled and registered in the United Kingdom (“UK”). The registered number is 09582467 and the registered address is 8th Floor, 20 Farringdon Street, London EC4A 3AE, United Kingdom.

PureTech’s group financial statements consolidate those of the Company and its subsidiaries (together referred to as the “Group”). The Parent company financial statements present financial information about the Company as a separate entity and not about its Group.

The accounting policies set out below have, unless otherwise stated, been applied consistently to all periods presented in these group financial statements.

Basis of Presentation

The consolidated financial statements of the Group are presented for the years ended December 31, 2019, 2018 and 2017. The Group financial statements have been approved by the Directors on September 21, 2020 and are prepared in accordance with the International Financial Reporting Standards, International Accounting Standards, and Interpretations (collectively “IFRS”) as issued by the International Accounting Standards Board (“IASB”) as adopted by the European Union (adopted IFRSs).

For presentation of the Consolidated Statements of Comprehensive Income/(Loss), the Company uses a classification based on the function of expenses, rather than based on their nature, as it is more representative of the format used for internal reporting and management purposes and is consistent with international practice.

Basis of Measurement

The consolidated financial statements are prepared on the historical cost basis except that the following assets and liabilities are stated at their fair value: investments held at fair value and financial instruments classified as fair value through the profit or loss.

Use of Judgments and Estimates

In preparing these consolidated financial statements, management has made judgements, estimates and assumptions that affect the application of the Group’s accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates. Estimates and underlying assumptions are reviewed on an on-going basis.

Significant estimation applied in determining the following:

- Financial instruments valuations (Note 21): when estimating the fair value of subsidiary undertakings, subsidiary preferred shares and investments carried at fair value through profit and loss (FVTPL) according to IFRS 9 at initial recognition and upon subsequent measurement. This includes determining the appropriate valuation methodology and making certain estimates of the future earnings potential of the subsidiary businesses, appropriate discount rate and earnings multiple to be applied, marketability and other industry and company specific risk factors.
- Revenue recognition (Note 3): when estimating the costs to complete for overtime revenue recognition. This includes making certain estimates of costs to be incurred relating to contracts with customers in

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meeting the overtime performance obligation. The costs are for research and development activity and the estimation uncertainty is regarding the level of activity required to meet the performance obligation and the timing in which that arises during the term of the contract.

Significant judgement is also applied in determining the following:

- Revenue recognition (Note 3): when determining the correct amount of revenue to be recognized. This includes making certain judgements when determining the appropriate accounting treatment of key customer contract terms in accordance with the applicable accounting standards. In particular, judgement is required to determine the performance obligations in a contract (if promised goods and services are distinct or not) and timing of revenue recognition (on delivery or over a period of time).
- Subsidiary preferred shares liability classification (Note 21): when determining the classification of financial instruments in terms of liability or equity. These judgements include an assessment of whether the financial instrument include any embedded derivative features, whether they include contractual obligations upon the Group to deliver cash or other financial assets or to exchange financial assets or financial liabilities with another party, and whether that obligation will be settled by the Company exchanging a fixed amount of cash or other financial assets for a fixed number of its own equity instruments. Further information about these critical judgements and estimates is included below under Financial Instruments.
- When the power to control the subsidiaries exists (please refer to Notes 5 and 6 and accounting policy below Subsidiaries). This judgement includes an assessment of whether the Company has i) power over the investee; (ii) exposure, or rights, to variable returns from its involvement with the investee; and (iii) the ability to use its power over the investee to affect the amount of the investor's returns. The Company considers among others its voting shares, representation on the board, rights to appoint management, investee dependence on the Company etc.
- Whether the Company has significant influence over financial and operating policies of investees in order to determine if the Company should account for its investment as an associate based on IAS 28 or based on IFRS 9, Financial Instruments (please refer to Note 5). This judgement includes, among others, an assessment whether the Company has representation on the board of directors of the investee, whether the Company participates in the policy making processes of the investee, whether there is any interchange of managerial personnel, whether there is any essential technical information provided to the investee and if there are any transactions between the Company and the investee.
- Upon determining that the Company does have significant influence over the financial and operating policies of an investee, if the Company holds more than a single instrument issued by its equity-accounted investee, judgement is required to determine whether the additional instrument forms part of the investment in the associate, which is accounted for under IAS 28 and scoped out of IFRS 9, or it is a separate financial instrument that falls in the scope of IFRS 9 (please refer to Notes 5 and 6). This judgement includes an assessment of the characteristics of the financial instrument of the investee held by the Company and whether such financial instrument provides access to returns underlying an ownership interest.

Going Concern

After making inquiries and considering the impact of risks and opportunities on expected cash flows and based on the cash and cash equivalents available to the Group as of December 31, 2019, the Directors have a reasonable expectation that the Group had adequate cash to continue in operational existence into the first quarter of 2022 and, following the sale of 2,100,000 shares of Karuna common shares worth \$200.9 million on January 22, 2020, the Group now has sufficient cash reserves to fund its operations into the first quarter of 2024, assuming broadly our expected level of required investments in businesses and other operating expenditures. The financial statements have been prepared using the going concern basis of accounting.

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Basis of Consolidation

The consolidated financial information for each of the years ended December 31, 2019, 2018 and 2017 comprises an aggregation of financial information of the Company and the consolidated financial information of PureTech Health LLC (“PureTech LLC”). Intra-group balances and transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated. Unrealized gains arising from transactions with equity-accounted investees are eliminated against the investment to the extent of the Group’s interest in the investee. Unrealized losses are eliminated in the same way as unrealized gains, but only to the extent that there is no evidence of impairment.

Subsidiaries

As used in these financial statements, the term subsidiaries refers to entities that are controlled by the Group. Financial results of subsidiaries of the Group as of December 31, 2019 are reported within the Internal segment, Controlled Founded Entities segment or the Parent Company and Other segment (please refer to Note 4). Under applicable accounting rules, the Group controls an entity when it is exposed to, or has the rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. In assessing control, the Group takes into consideration potential voting rights and board interest and holding. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases. Losses applicable to the non-controlling interests in a subsidiary are allocated to the non-controlling interests even if doing so causes the non-controlling interests to have a deficit balance.

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A list of all current and former subsidiaries organized with respect to classification as of December 31, 2019 and the Group's total voting percentage, based on outstanding voting common and preferred shares as of December 31, 2019, 2018 and 2017, is outlined below. All subsidiaries are domiciled within the United States and conduct business activities solely within the United States, with the exception of Gelesis, S.r.l. which is domiciled in Italy.

Subsidiary	Voting percentage at December 31, through the holdings in					
	2019		2018		2017	
	Common	Preferred	Common	Preferred	Common	Preferred
Subsidiary operating companies						
Alivio Therapeutics, Inc. ^{1,2}	—	91.9	—	92.0	—	92.0
Calix Biosciences, Inc. ^{2,10}	—	—	—	—	—	100.0
Entrega, Inc. (indirectly held through Enlight) ^{1,2}	—	83.1	—	83.1	—	83.1
Follica, Incorporated ^{1,2,5}	28.7	56.7	4.4	79.2	4.4	68.3
Glyph Biosciences, Inc. ^{1,2,10}	—	—	—	—	—	97.3
Nybo Therapeutics, Inc. ^{1,2,10}	—	—	—	—	—	94.7
PureTech LYT (formerly Ariya Therapeutics, Inc.) ¹⁰	—	100.0	—	100.0	—	—
PureTech LYT-100	—	100.0	—	100.0	—	—
PureTech Management, Inc. ³	100.0	—	100.0	—	100.0	—
PureTech Health LLC ³	100.0	—	100.0	—	100.0	—
Sonde Health, Inc. ^{1,2}	—	64.1	—	96.4	—	96.4
Vedanta Biosciences, Inc. ^{1,2}	—	61.8	—	74.3	—	85.9
Vedanta Biosciences Securities Corp. (indirectly held through Vedanta) ^{1,2}	—	61.8	—	74.3	—	85.9
Deconsolidated former subsidiary operating companies						
Akili Interactive Labs, Inc. ^{1,2,9}	—	41.9	—	41.9	—	61.8
Akili Securities Corp. (indirectly held through Akili) ^{1,2,9}	—	41.9	—	41.9	—	61.8
Gelesis, Inc. ^{1,2,11}	5.7	20.2	7.3	18.4	7.3	18.7
Gelesis, S.r.l. (indirectly held through Gelesis) ^{7,11}	5.7	20.2	7.3	18.4	7.3	18.7
Gelesis, LLC (indirectly held through Gelesis) ^{1,8,11}	5.7	20.2	7.3	18.4	7.3	18.7
Gelesis 2012, Inc. (held indirectly through Gelesis) ^{2,11}	5.7	20.2	7.3	18.4	7.3	18.7
Karuna Pharmaceuticals, Inc. ^{1,2,13}	—	28.4	—	71.0	—	90.7
Vor Biopharma Inc. ^{1,2,14}	—	47.5	—	93.2	—	94.1
Nontrading holding companies						
Endra Holdings, LLC (held indirectly through Enlight) ²	86.0	—	86.0	—	86.0	—
Ensof Holdings, LLC (held indirectly through Enlight) ²	86.0	—	86.0	—	86.0	—
PureTech Securities Corp. ²	100.0	—	100.0	—	100.0	—
Inactive subsidiaries						
Appeering, Inc. ²	—	100.0	—	100.0	—	100.0
Commense Inc. ^{2,6}	—	99.1	—	99.1	—	100.0
Enlight Biosciences, LLC ²	86.0	—	86.0	—	86.0	—
Ensof Biosystems, Inc. (held indirectly through Enlight) ^{1,2}	57.7	28.3	57.7	28.3	57.7	28.3
Knode Inc. (indirectly held through Enlight) ²	—	86.0	—	86.0	—	86.0
Libra Biosciences, Inc. ²	—	100.0	—	100.0	—	100.0
Mandara Sciences, LLC ²	98.3	—	98.3	—	98.3	—
The Sync Project, Inc. ^{1,2}	—	—	—	—	—	77.6
Tal Medical, Inc. ^{1,2}	—	100.0	—	64.5	—	64.5

1. The ownership percentage includes liability classified preferred shares, which results in the ownership percentage not being the same as the ownership percentage used in allocations to non-controlling interests disclosed in Note 16. The allocation of losses/profits to the noncontrolling interest is based on the holdings

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of subordinated stock that provide ownership rights in the subsidiaries. The ownership of liability classified preferred shares are quantified in Note 15.

2. Registered address is Corporation Trust Center, 1209 Orange St., Wilmington, DE 19801, USA.
3. Registered address is 2711 Centerville Rd., Suite 400, Wilmington, DE 19808, USA.
4. The Company's interests in its subsidiaries are predominantly in the form of preferred shares, which have a liquidation preference over the common stock, are convertible into common stock at the holder's discretion or upon certain liquidity events, are entitled to one vote per share on all matters submitted to shareholders for a vote and entitled to receive dividends when and if declared, except in the case of Enlight, Mandara and PureTech Health LLC in which the holdings are membership interests in an LLC. The holders of common stock are entitled to one vote per share on all matters submitted to shareholders for a vote and entitled to receive dividends when and if declared.
5. On July 19, 2019, all of the outstanding notes, plus accrued interest, issued by Follica to PureTech converted into 15,216,214 shares of Series A-3 Preferred Shares and 12,777,287 shares of common share pursuant to a Series A-3 Note Conversion Agreement between Follica and the noteholders. Please refer to Note 16.
6. Commense turned inactive during 2019.
7. Registered address is Via Verde 188, 73021 Calmera (LE), Italy.
8. Registered address is 901 N. Market St., Suite 705, Wilmington, DE 19801, USA.
9. On May 8, 2018, PureTech lost control of Akili, Akili was deconsolidated from the Group's financial statements and is no longer considered a subsidiary. This results in only the profits and losses generated by Akili through the deconsolidation date being included in the Group's Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss).
10. On July 18, 2018, Calix Biopharma, Inc., Glyph Biosciences, Inc., and Nybo Therapeutics, Inc. merged into Ariya Therapeutics, Inc. Thus, the Group no longer holds interest in Calix, Glyph and Nybo and owns 100 per cent of Ariya as of December 31, 2018.
11. As of December 31, 2018, PureTech maintained control of Gelesis. On July 1, 2019 PureTech lost control of Gelesis and Gelesis was deconsolidated from the Group's financial statements, resulting in only the profits and losses generated by Gelesis through the deconsolidation date being included in the Group's Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss).
12. All subsidiaries are registered in the United States ("US") except for Gelesis, S.r.l., which is registered in Italy.
13. On March 15, 2019, PureTech lost control of Karuna, Karuna was deconsolidated from the Group's financial statements and is no longer considered a subsidiary. This results in only the profits and losses generated by Karuna through the deconsolidation date being included in the Group's Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss).
14. On February 12, 2019, PureTech lost control of Vor, Vor was deconsolidated from the Group's financial statements and is no longer considered a subsidiary. This results in only the profits and losses generated by Vor through the deconsolidation date being included in the Group's Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss).

Change in subsidiary ownership and loss of control

Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions.

Where the Group loses control of a subsidiary, the assets and liabilities are derecognized along with any related non-controlling interest ("NCI"). Any interest retained in the former subsidiary is measured at fair value when control is lost. Any resulting gain or loss is recognized as profit or loss in the Consolidated Statements of Comprehensive Income/(Loss).

Associates

As used in these financial statements, the term associates are those entities in which the Group has no control but maintains significant influence over the financial and operating policies. Significant influence is presumed to

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exist when the Group holds between 20 and 50 percent of the voting power of an entity, unless it can be clearly demonstrated that this is not the case. The Group evaluates if it maintains significant influence over associates by assessing if the Group has lost the power to participate in the financial and operating policy decisions of the associate.

Application of the equity method to associates

Associates are accounted for using the equity method (equity accounted investees) and are initially recognized at cost, or if recognized upon deconsolidation they are initially recorded at fair value at the date of deconsolidation. The consolidated financial statements include the Group's share of the total comprehensive income and equity movements of equity accounted investees, from the date that significant influence commences until the date that significant influence ceases. When the Group's share of losses exceeds its investment in an equity accounted investee, including the Group's investments in other long-term interests, the Group's carrying amount is reduced to nil and recognition of further losses is discontinued except to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of an investee. To the extent the Group holds interests in associates that are not providing access to returns underlying ownership interests and are more akin to debt like securities, the instrument held by PureTech is accounted for in accordance with IFRS 9.

Change in Accounting Policy

As of January 1, 2019, the Group has adopted new accounting policies for the accounting for leases. See updated accounting policy for leases (IFRS 16) below.

The Group has also adopted the amendments to IAS 28 Investments in Associates that addresses the dual application of IAS 28 and IFRS 9 (see below) when equity method losses are applied against Long-Term Investments (LTI), as defined in IAS 28. The amendments provide the annual sequence in which both standards are to be applied in such a case. The amendment did not have an impact on the Group's financial statements as the Group has not yet had an investment in an associate where it applied the equity method losses against a LTI.

As of January 1, 2018 the Group has adopted new accounting policies for financial instruments and revenue. See updated accounting policies below.

IFRS 9, Financial Instruments

As of January 1, 2018, the Company adopted IFRS 9, Financial Instruments ("IFRS 9"), which replaced IAS 39, Financial Instruments: Recognition and Measurement. IFRS 9 addresses the classification, measurement and recognition of financial assets and liabilities. IFRS 9 retains but simplifies the mixed measurement model and establishes three primary measurement categories for financial assets: amortized cost, fair value through other comprehensive income ("FVOCI"), and fair value through the profit and loss statement ("FVTPL"). The basis of classification depends on the entity's business model and the contractual cash flow characteristics of the entity's business model and of the financial asset. Investments in equity instruments are required to be measured at FVTPL with the irrevocable option at inception to present changes in fair value in other comprehensive income. There is now a new expected credit losses model that replaces the incurred loss impairment model previously used in IAS 39. For financial liabilities there were no changes to classification and measurement except for the recognition of changes in the Company's own credit risk in Other Comprehensive Income/(Loss) for liabilities designated at FVTPL. IFRS 9 relaxes the requirements for hedge effectiveness by replacing the bright line hedge effectiveness tests. It requires an economic relationship between the hedged item and hedging instrument and for the hedged ratio to be the same as the one management uses for risk management purposes.

Contemporaneous documentation is still required but is different than what was prepared under IAS 39.

The Group reviewed the financial liabilities reported on its Consolidated Statements of Financial Position and completed an assessment between IAS 39 and IFRS 9 to identify any accounting changes. The financial liabilities

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subject to this review were the Subsidiary notes payable, Derivative liability, Warrant liability, and Preferred share liability. Based on this assessment of the classification and measurement model, impairment and interest income, the accounting impact on financial liabilities was determined not to be material. As part of the transition requirement, entities have the option upon implementation of the new standard to designate a financial liability as measured at FVTPL. The Group re-assessed its financial liabilities and has elected not to split out embedded derivatives and retrospectively recorded changes in fair value of the entire financial liability instrument through the statement of profit and loss, leading to changes in the carrying value of the instruments when looked at in the aggregate.

The Group also reviewed the financial assets reported on its Consolidated Statements of Financial Position and notes no changes in the application of IFRS 9.

The Group has applied IFRS 9 retrospectively but has elected not to restate comparative information. As a result, the comparative information provided continues to be accounted for in accordance with the Group's previous accounting policy. The reclassification and adjustment arising from the adoption of the new accounting policy has been recognized in the opening statement of financial position as of January 1, 2018.

Financial Liability	IAS 39 as of December 31, 2017 \$000s	Cumulative Effect Adjustment to Accumulated Deficit \$000s	IFRS 9 As of January 1, 2018 \$000s
Notes payable	7,455	6,435	13,890
Derivative liability	114,263	(114,263)	—
Warrant liability	13,095	—	13,095
Preferred shares	120,051	95,584	215,635
	254,864	(12,244)	242,620

The accounting policy (effective from January 1, 2018) is as follows:

Financial Instruments

Classification

From January 1, 2018, the Group classifies its financial assets in the following measurement categories:

- Those to be measured subsequently at fair value (either through other comprehensive income, or through profit or loss), and
- Those to be measured at amortized cost.

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows.

For assets measured at fair value, gains and losses will either be recorded in profit or loss or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. For investments in equity instruments that are not held for trading, this will depend on whether the Group has made an irrevocable election at the time of initial recognition to account for the equity investment at FVOCI.

Measurement

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at FVTPL, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets that are carried at FVTPL are expensed.

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Impairment

The Group assesses on a forward-looking basis the expected credit losses associated with its debt instruments carried at amortized cost and FVOCI. The impairment methodology applied depends on whether there has been a significant increase in credit risk. For trade receivables, the Group applies the simplified approach permitted by IFRS 9, which requires expected lifetime losses to be recognized from initial recognition of the receivables.

The Group has reviewed the financial assets and liabilities and determined the following impact from the adoption of the new standard:

Financial Assets

The Group's financial assets consist of cash and cash equivalents, trade and other receivables, debt and equity securities, other deposits and investments in associates' preferred shares and promissory notes. The Group's financial assets are classified into the following categories: investments held at fair value, trade and other receivables and cash and cash equivalents. The Group determines the classification of financial assets at initial recognition depending on the purpose for which the financial assets were acquired.

Investments held at fair value are non-derivative instruments that are designated in this category or not classified in any other category. These financial assets are initially measured at fair value and subsequently re-measured at fair value at each reporting date. The Company elects if the gain or loss will be recognized in Other Comprehensive Income/(Loss) or through profit and loss on an instrument by instrument basis. Financial assets that are recognized through FVOCI are presented in the Consolidated Statements of Financial Position as non-current assets, unless the Group intends to dispose of them within 12 months after the end of the reporting period. The Company has elected to record the changes in fair values for most financial assets falling under this category through profit and loss. Please refer to Note 5.

Trade and other receivables are non-derivative financial assets with fixed and determinable payments that are not quoted on active markets. These financial assets are carried at the amounts expected to be received less any allowance for doubtful debts. Provisions are made where there is evidence of a risk of nonpayment, taking into account aging, previous experience and economic conditions. When a trade receivable is determined to be uncollectible, it is written off against the available provision and then to the Consolidated Statements of Comprehensive Income/(Loss). Trade and other receivables are included in current assets, unless maturities are greater than 12 months after the end of the reporting period.

Financial Liabilities

The Group's financial liabilities consist of trade and other payables, subsidiary notes payable, preferred shares, and warrant liability. Warrant liabilities are initially recognized at fair value. After initial recognition, these financial liabilities are re-measured at FVTPL using an appropriate valuation technique. Subsidiary notes payable and subsidiary preferred shares without embedded derivatives are accounted for at amortized cost.

The majority of the Group's subsidiaries have preferred shares and notes payable with embedded derivatives, which are classified as current liabilities. These financial instruments are assessed under IFRS 9 to determine if the instrument qualifies to be accounted for under the FVTPL method. When the Group has preferred shares with embedded derivatives that qualify for bifurcation, the Group has elected to account for the entire instrument as FVTPL.

The Group derecognizes a financial liability when its contractual obligations are discharged, cancelled or expire.

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Equity Instruments Issued by the Group

Financial instruments issued by the Group are treated as equity only to the extent that they meet the following two conditions, in accordance with IAS 32:

1. They include no contractual obligations upon the Group to deliver cash or other financial assets or to exchange financial assets or financial liabilities with another party under conditions that are potentially unfavorable to the Group; and
2. Where the instrument will or may be settled in the Group's own equity instruments, it is either a non-derivative that includes no obligation to deliver a variable number of the Group's own equity instruments or is a derivative that will be settled by the Group exchanging a fixed amount of cash or other financial assets for a fixed number of its own equity instruments.

To the extent that this definition is not met, the financial instrument is classified as a financial liability. Where the instrument so classified takes the legal form of the Group's own shares, the amounts presented in the financial information for share capital and merger reserve account exclude amounts in relation to those shares.

The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividends from such investments continue to be recognized in profit or loss as other income when the Group's right to receive payment is established.

Changes in the fair value of financial assets at FVTPL are recognized in other income/(expense) in the Consolidated Statements of Comprehensive Income/(Loss) as applicable. Impairment losses (and reversal of impairment losses) on equity investments measured at FVOCI are not reported separately from other changes in fair value.

IFRS 15, Revenue from Contracts with Customers

IFRS 15 establishes principles for reporting useful information to users of financial statements about the nature, amount, timing and uncertainty of revenue and cash flows arising from an entity's contracts with customers. The standard establishes a five-step principle-based approach for revenue recognition and is based on the concept of recognizing an amount that reflects the consideration for performance obligations only when they are satisfied and the control of goods or services is transferred.

The majority of the Group's contract revenue is generated from licenses, services, and collaboration arrangements. The Group adopted IFRS 15 with effect from January 1, 2018 using the Modified Retrospective approach. The adoption of this standard did not have an impact to the consolidated results.

Management reviewed contracts where the Group received consideration in order to determine whether or not they should be accounted for in accordance with IFRS 15. To date, PureTech has entered into transactions that generate revenue and meet the scope of either IFRS 15 or IAS 20 Accounting for Government Grants. Contract revenue is recognized at either a point-in-time or over time, depending on the nature of the services and existence of acceptance clauses.

Revenue generated by collaboration and service agreements is accounted for under IFRS 15. The Group accounts for agreements that meet the definition of IFRS 15 by applying the following five step model:

- Identify the contract(s) with a customer—A contract with a customer exists when (i) the Group enters into an enforceable contract with a customer that defines each party's rights regarding the goods or services to be transferred and identifies the payment terms related to those goods or services, (ii) the contract has commercial substance and, (iii) the Group determines that collection of substantially all consideration for goods or services that are transferred is probable based on the customer's intent and ability to pay the promised consideration.

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- Identify the performance obligations in the contract—Performance obligations promised in a contract are identified based on the goods or services that will be transferred to the customer that are both capable of being distinct, whereby the customer can benefit from the good or service either on its own or together with other resources that are readily available from third parties or from the Group, and are distinct in the context of the contract, whereby the transfer of the goods or services is separately identifiable from other promises in the contract.
- Determine the transaction price—The transaction price is determined based on the consideration to which the Group will be entitled in exchange for transferring goods or services to the customer. To the extent the transaction price includes variable consideration, the Group estimates the amount of variable consideration that should be included in the transaction price utilizing either the expected value method or the most likely amount method depending on the nature of the variable consideration. Variable consideration is included in the transaction price if, in the Group’s judgement, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. Determining the transaction price requires significant judgement, which is discussed by revenue category in further detail below.
- Allocate the transaction price to the performance obligations in the contract—If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation based on a relative standalone selling price basis unless the transaction price is variable and meets the criteria to be allocated entirely to a performance obligation or to a distinct good or service that forms part of a single performance obligation. The Group determines standalone selling price based on the price at which the performance obligation is sold separately. If the standalone selling price is not observable through past transactions, the Group estimates the standalone selling price taking into account available information such as market conditions and internally approved pricing guidelines related to the performance obligations.
- Recognize revenue when (or as) the Group satisfies a performance obligation—The Group satisfies performance obligations either over time or at a point in time as discussed in further detail below. Revenue is recognized at the time the related performance obligation is satisfied by transferring a promised good or service to a customer.

Revenue generated from services agreements (typically where licenses and related services were combined into one performance obligation) is determined to be recognized over time when it can be determined that the services meet one of the following: (a) the customer simultaneously receives and consumes the benefits provided by the entity’s performance as the entity performs; (b) the entity’s performance creates or enhances an asset that the customer controls as the asset is created or enhanced; or (c) the entity’s performance does not create an asset with an alternative use to the entity and the entity has an enforceable right to payment for performance completed to date.

It was determined that the Group has contracts that meet criteria (a), since the customer simultaneously receives and consumes the benefits provided by the Company’s performance as the Company performs as well as one contract that meets criteria (b) above. Therefore revenue is recognized over time using the input method based on labor hours, laboratory expenses and supplies.

For cases where the entity does not have an enforceable right to payment due to acceptance clauses, it was determined that costs incurred to fulfill the services are to be capitalized until acceptance is received for the milestone. This resulted in PureTech capitalizing service-related expenses as of December 31, 2017 and recognizing the consideration as revenue once acceptance was received during 2018.

Grant Income

The Company recognizes grants from governmental agencies as grant income in the Consolidated Statement of Comprehensive Income/(Loss), gross of the expenditures that were related to obtaining the grant, when there is

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reasonable assurance that the Company will comply with the conditions within the grant agreement and there is reasonable assurance that payments under the grants will be received. The Company evaluates the conditions of each grant as of each reporting date to ensure that the Company has reasonable assurance of meeting the conditions of each grant arrangement and it is expected that the grant payment will be received as a result of meeting the necessary conditions.

The Company submits qualifying expenses for reimbursement for certain expenses after the Company has incurred the research and development expense. The Company records an unbilled receivable upon incurring such expenses. Grant income is recognized in the Consolidated Statements of Comprehensive Income/(Loss) over the periods in which the Company recognizes the related reimbursable expense for which the grant is intended to compensate.

Functional and Presentation Currency

These consolidated financial statements are presented in United States dollars (“US dollars”). The functional currency of virtually all members of the Group is the US dollar. The assets and liabilities of a previously held subsidiary were translated to US dollars at the exchange rate prevailing on the balance sheet date and revenues and expenses were translated at the average exchange rate for the period. Foreign exchange differences resulting from the translation of this subsidiary were reported in the Consolidated Statements of Comprehensive Income/(Loss) in Other Comprehensive Income/(Loss).

Foreign Currency

Transactions in foreign currencies are translated to the respective functional currencies of Group entities at the foreign exchange rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies at the balance sheet date are retranslated to the functional currency at the foreign exchange rate ruling at that date. Foreign exchange differences arising on remeasurement are recognized in the Consolidated Statement of Comprehensive Income/(Loss) except for differences arising on the retranslation of a financial liability designated as a hedge of the net investment in a foreign operation that is effective, or qualifying cash flow hedges, which are recognized directly in other comprehensive income. Non-monetary assets and liabilities that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction. Non-monetary assets and liabilities denominated in foreign currencies that are stated at fair value are retranslated to the functional currency at foreign exchange rates ruling at the dates the fair value was determined.

Cash and Cash Equivalents

Cash and cash equivalents include all highly liquid instruments with original maturities of three months or less.

Share Capital

Ordinary shares are classified as equity. The Group is comprised of share capital, share premium, merger reserve, other reserve, translation reserve, and accumulated deficit.

Property and Equipment

Property and equipment is stated at cost less accumulated depreciation and any accumulated impairment losses. Cost includes expenditures that are directly attributable to the acquisition of the asset. Assets under construction represent leasehold improvements and machinery and equipment to be used in operations or research and development activities. When parts of an item of property and equipment have different useful lives, they are

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accounted for as separate items (major components) of property and equipment. Depreciation is calculated using the straight-line method over the estimated useful life of the related asset:

Laboratory and manufacturing equipment	2 - 8 years
Furniture and fixtures	7 years
Computer equipment and software	1 - 5 years
Leasehold improvements	5 - 10 years, or the remaining term of the lease, if shorter

Depreciation methods, useful lives and residual values are reviewed at each balance sheet date.

Intangible Assets

Intangible assets, which include purchased patents and licenses with finite useful lives, are carried at historical cost less accumulated amortization, if amortization has commenced, and impairment losses. Intangible assets with finite lives are amortized from the time they are available for use. Amortization is calculated using the straight-line method to allocate the costs of patents and licenses over their estimated useful lives, which is typically the remaining life of the underlying patents.

Research and development intangible assets, which are still under development and have accordingly not yet obtained marketing approval, are presented as In-Process Research and Development (IPR&D). IPR&D is not amortized since it is not yet available for its intended use, but it is evaluated for potential impairment on an annual basis or more frequently when facts and circumstances warrant.

Impairment

Impairment of Non-Financial Assets

The Group reviews the carrying amounts of its property and equipment and intangible assets at each reporting date to determine whether there are indicators of impairment. If any such indicators of impairment exist, then an asset's recoverable amount is estimated. The recoverable amount is the higher of an asset's fair value less cost of disposal and value in use.

The Company's IPR&D intangible assets are not yet available for their intended use. As such, they are to be tested for impairment at least annually.

An impairment loss is recognized when an asset's carrying amount exceeds its recoverable amount. For the purposes of impairment testing, assets are grouped at the lowest levels for which there are largely independent cash flows. If a non-financial asset instrument is impaired, an impairment loss is recognized in the Consolidated Statements of Comprehensive Income/(Loss).

Investments in associates are considered impaired if, and only if, objective evidence indicates that one or more events, which occurred after the initial recognition, have had an impact on the future cash flows from the net investment and that impact can be reliably estimated. If an impairment exists the Company measures an impairment by comparing the carrying value of the net investment in the associate to its recoverable amount and recording any excess as an impairment loss. See Note 6 for impairment recorded in respect of investment in associate.

Impairment of Financial Assets Carried at Fair Value

The Group's financial assets are carried at fair value through Other Comprehensive Income/(Loss) or through profit and loss, depending on the election taken for each instrument. Financial assets that carried at fair value through Other Comprehensive Income/(Loss) are reviewed at each reporting period to assess whether there is

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objective evidence that the assets should be impaired. An impairment loss is recognized when there is a significant or prolonged decline in fair value below the instrument's cost. If an instrument is impaired, the impairment loss is calculated and recognized in the Consolidated Statements of Comprehensive Income/(Loss).

Impairment of Financial Assets Measured at Amortized Cost

The Group assesses financial assets measured at amortized cost for impairment at each reporting period. These financial assets are impaired if one or more loss events occur after initial recognition that impact the estimated future cash flows of the asset. An impairment loss is calculated as the difference between its carrying amount and the present value of the estimated future cash flows discounted at the asset's original effective interest rate and is recognized in the Consolidated Statements of Comprehensive Income/(Loss).

Employee Benefits

Short-Term Employee Benefits

Short-term employee benefit obligations are measured on an undiscounted basis and expensed as the related service is provided. A liability is recognized for the amount expected to be paid if the Group has a present legal or constructive obligation due to past service provided by the employee, and the obligation can be estimated reliably.

Defined Contribution Plans

A defined contribution plan is a post-employment benefit plan under which an entity pays fixed contributions into a separate entity and has no legal or constructive obligation to pay further amounts. Obligations for contributions to defined contribution plans are recognized as an employee benefit expense in the periods during which related services are rendered by employees. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in future payments is available.

Share-based Payments

Share-based payment arrangements, in which the Group receives goods or services as consideration for its own equity instruments, are accounted for as equity-settled share-based payment transactions in accordance with IFRS 2, regardless of how the equity instruments are obtained by the Group. The grant date fair value of employee share-based payment awards is recognized as an expense with a corresponding increase in equity over the period that the employee is unconditionally entitled to the awards. The fair value is measured using an option pricing model, which takes into account the terms and conditions of the options granted. The amount recognized as an expense is adjusted to reflect the actual number of awards for which the related service and non-market vesting conditions are expected to be met, such that the amount ultimately recognized as an expense is based on the number of awards that do meet the related service and non-market performance conditions at the vesting date. For share-based payment awards with non-vesting and non-market performance conditions, the grant date fair value is measured to reflect such conditions and there is no true-up for differences between expected and actual outcomes.

Development Costs

Expenditures on research activities are recognized as incurred in the Consolidated Statements of Comprehensive Income/ (Loss). In accordance with IAS 38 development costs are capitalized only if the expenditure can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, the Group intends to and has sufficient resources to complete development and to use or sell the asset, and it is able to measure reliably the expenditure attributable to the intangible asset during its development. The point at which technical feasibility is determined to have been reached is when regulatory approval has been

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received where applicable. Management determines that commercial viability has been reached when a clear market and pricing point have been identified, which may coincide with achieving recurring sales. Otherwise, the development expenditure is recognized as incurred in the Consolidated Statements of Comprehensive Income/(Loss). As of balance sheet date the Group has not capitalized any development costs.

Provisions

A provision is recognized in the Consolidated Statements of Financial Position when the Group has a present legal or constructive obligation due to a past event that can be reliably measured, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects risks specific to the liability.

Leases

On January 1, 2019, the Group adopted a new accounting standard for leases. The Group leases real estate and equipment for use in operations. These leases generally have lease terms of 1 to 10 years. We include options that are reasonably certain to be exercised as part of the determination of the lease term. We determine if an arrangement is a lease at inception of the contract in accordance with guidance detailed in the new standard and we perform the lease classification test as of the lease commencement date. ROU assets represent the Group's right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As most of our leases do not provide an implicit rate, we use the Group's estimated incremental borrowing rate based on information available at commencement date in determining the present value of future payments.

The Group's operating leases impacted by IFRS 16 principally include leases from real estate.

Existing finance leases continue to be treated as finance leases. For existing operating leases, the Group has applied a modified retrospective approach by measuring the right-of-use asset at an amount equal to the lease liability at the date of transition and therefore comparative information was not restated. Upon transition, the Group has applied the following practical expedients:

- excluding initial direct costs from the right-of-use assets;
- using hindsight when assessing the lease term;
- not reassessing whether a contract is or contains a lease; and
- not separating the lease components from the non-lease components in lease contracts.

The Group has elected to account for lease payments as an expense on a straight-line basis over the life of the lease for:

- Leases with a term of 12 months or less and containing no purchase options; and
- Leases where the underlying asset has a value of less than \$5,000.

The lease liability was initially measured at the present value of the lease payments that were not paid at the transition date, discounted by using the rate implicit in the lease, or if that rate was not readily determinable, the Group used its incremental borrowing rate. The right-of-use asset is depreciated on a straight-line basis and the lease liability will give rise to an interest charge.

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The financial impact of adopting IFRS 16 on the Group was as follows:

	January 1, 2019 \$000's
Right of use asset	10,353
Lease liability	10,995
Accumulated deficit	(999)

The cumulative impact resulted mainly from lease term extensions under IFRS 16 offset by the exclusion of short term leases and leases of low value assets.

In January and April 2019, the Company entered into additional leases that added substantially more right of use assets and lease liabilities to the statement of financial position. This includes three different spaces for the Company and its consolidated subsidiaries, amounting to approximately \$42 million of additional future lease commitments. In June and August 2019, the Company entered into two sublease agreements. Further information regarding the subleases, right of use asset and lease liability can be found in Note 20.

Finance Income and Finance Costs

Finance income is comprised of interest income on funds invested in US treasuries, which is recognized as it accrues in the Consolidated Statements of Comprehensive Income/(Loss) via the effective interest method. Finance costs comprise loan interest expenses and the changes in the fair value of warrant and derivative liabilities associated with financing transactions.

Taxation

Tax on the profit or loss for the year comprises current and deferred income tax. In accordance with IAS 12, tax is recognized in the Consolidated Statements of Comprehensive Income/(Loss) except to the extent that it relates to items recognized directly in equity.

For the years ended December 31, 2019 and 2018, the Group filed a consolidated US income tax return which included all subsidiaries in which the Company owned greater than 80.0 percent of the vote and value. For the years ended December 31, 2019 and 2018, the Group filed certain consolidated state income tax returns which included all subsidiaries in which the Company owned greater than 50.0 percent of the vote and value. The remaining subsidiaries file separate US tax returns.

Current income tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted or substantially enacted at the reporting date, and any adjustment to tax payable in respect of previous years.

Deferred tax is recognized due to temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax assets are recognized for unused tax losses, unused tax credits and deductible temporary differences to the extent that it is probable that future taxable profits will be available against which they can be used. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realized.

Deferred tax is measured at the tax rates that are expected to be applied to temporary differences when they reverse, using tax rates enacted or substantively enacted at the reporting date.

Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income tax assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities where there is an intention to settle the balances on a net basis.

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Deferred taxes are recognized in Consolidated Statements of Comprehensive Income/(Loss) except to the extent that they relate to items recognized directly in equity or in other comprehensive income.

Deferred Revenue and Deferred Costs

Deferred revenue includes amounts that are receivable or have been received per contractual terms but have not been recognized as revenue since performance has not yet occurred or has not yet been completed. Deferred costs represent costs to fulfill a contract and include capitalized labor and research and development expenditures. The Company classifies non-current deferred revenue and deferred costs for any transaction which is expected to be recognized beyond one year or one operating cycle.

Fair Value Measurements

The Group's accounting policies require that its financial and non-financial assets and liabilities be measured at their fair value.

The Group uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs. Fair values are categorized into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The Group recognizes transfers between levels of the fair value hierarchy at the end of the reporting period during which the change has occurred.

The carrying amount of cash and cash equivalents, accounts receivable, short-term investments, restricted cash, deposits, accounts payable, accrued expenses and other current liabilities in the Group's Consolidated Statements of Financial Position approximates their fair value because of the short maturities of these instruments.

Operating Segments

Operating segments are reported in a manner that is consistent with the internal reporting provided to the chief operating decision maker ("CODM"). The CODM reviews discrete financial information for the operating segments in order to assess their performance and is responsible for making decisions about resources allocated to the segments. The CODM has been identified as the Group's Directors.

Prior period reclassification

During 2019 management identified that for the year ended December 31, 2018, Gain/(loss) on investments held at fair value of \$14.3 million was incorrectly classified as Finance costs—subsidiary preferred shares. As a result, a prior year reclassification has been made in the Consolidated Statement of Comprehensive Income/(Loss) for the year ended December 31, 2018.

2. New Standards and Interpretations Not Yet Adopted

A number of new standards, interpretations, and amendments to existing standards are effective for annual periods commencing on or after January 1, 2020 and have not been applied in preparing the consolidated

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financial information. The Company's assessment of the impact of these new standards and interpretations is set out below.

Effective January 1, 2020 the definition of a "business" has been amended as an amendment to IFRS 3 Business Combinations. The amendments include an election to use a concentration test. This is a simplified assessment that results in an asset acquisition if substantially all of the fair value of the gross assets is concentrated in a single identifiable asset or a group of similar identifiable assets. If an entity chooses not to apply the concentration test, or fails the test, then the assessment focuses on the existence of an input and a substantive process applied to the input/s. These amendments are not expected to have an impact on the Company's financial statements.

As part of its amendments to IAS 1 and IAS 8, the IASB has refined its definition of 'material' and issued practical guidance on applying the concept of materiality. These amendments are effective January 1, 2020 and are not expected to have an impact on the Company's financial statements.

None of the other new standards, interpretations, and amendments are applicable to the Company's financial statements and therefore will not have an impact on the Company.

3. Revenue

Revenue recorded in the Consolidated Statement of Comprehensive Income/(Loss) consists of the following:

<u>For the years ended December 31,</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
	<u>\$000s</u>	<u>\$000s</u>	<u>\$000s</u>
Contract revenue (IAS 18 for 2017 and IFRS 15 for 2018 and 2019)	8,688	16,371	650
Grant income	1,119	4,377	1,885
Total revenue	9,807	20,748	2,535

All amounts recorded in contract revenue were generated in the United States.

The Group adopted IFRS 15 effective 1 January 2018, using the modified retrospective method and has only applied this method to contracts that were not completed as of the effective date and all new contracts initiated on or after the effective date. Results for reporting periods beginning on or after January 1, 2018 are presented under IFRS 15, while prior period amounts have not been restated and continue to be recorded in accordance with the governing revenue recognition standard applicable to that period.

All of the Company's contracts as of December 31, 2019 and 2018 were determined to have a single performance obligation which consists of a combined deliverable of license to intellectual property and research and development services. Therefore revenue is recognized over time based on the inputs method which is a faithful depiction of the transfer of goods and services. Progress is measured based on costs incurred to date as compared to total projected costs.

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Disaggregated Revenue

The Group disaggregates contract revenue for reporting periods beginning on or after January 1, 2018 in a manner that depicts how the nature, amount, timing, and uncertainty of revenue and cash flows are affected by economic factors. The Group disaggregates revenue based on contract revenue or grant revenue, and further disaggregates contract revenue based on the transfer of control of the underlying performance obligations.

<u>Timing of revenue recognition *</u>	<u>2019</u> <u>\$000s</u>	<u>2018</u> <u>\$000s</u>
Transferred at a point in time	—	13,415
Transferred over time	8,688	2,956
	8,688	16,371
<u>Customers over 10% of revenue*</u>	<u>2019</u> <u>\$000s</u>	<u>2018</u> <u>\$000s</u>
Janssen Biotech, Inc.	—	12,000
BMEB Services LLC	—	1,415
Roche Holding AG	4,973	—
Eli Lilly and Company	1,433	—
Boehringer Ingelheim International GMBH	1,091	—
Imbrium Therapeutics L.P.	1,013	—
	8,510	13,415

* Required disclosure under IFRS 15 (not applicable to 2017)

An estimation uncertainty arises due to management's application of the inputs method in recognizing revenue overtime. In doing so, the total cost to satisfy the performance obligation includes a significant estimate by management in its budgets and projected cash flows. The sensitivity of this calculation for the years ended December 31, 2019 and 2018 is detailed below:

<u>For the year ended December 31, 2019</u>		
Budgeted costs to complete	+10%	(10)%
Revenue	(951)	738
<u>For the year ended December 31, 2018</u>		
Budgeted costs to complete	+10%	(10)%
Revenue	(265)	323

Contract Balances

Accounts receivables represent rights to consideration in exchange for products or services that have been transferred by the Group, when payment is unconditional and only the passage of time is required before payment is due. Accounts receivables do not bear interest and are recorded at the invoiced amount. Accounts receivable are included within Trade and other receivables on the Consolidated Statement of Financial Position.

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Contract liabilities represent the Group's obligation to transfer products or services to a customer for which consideration has been received, or for which an amount of consideration is due from the customer. When applicable, contract assets and liabilities are reported on a net basis at the contract level, depending on the contracts position at the end of each reporting period. Contract liabilities are included within deferred revenue on the Consolidated Statement of Financial Position.

<u>Contract Balances*</u>	<u>2019</u>	<u>2018</u>
	<u>\$000s</u>	<u>\$000s</u>
Accounts receivable	1,699	151
Deferred revenue—long term	1,220	83
Deferred revenue—short term	5,474	6,560

* Required disclosure under IFRS 15 (not applicable to 2017)

During the year ended December 31, 2019, \$5.0 million of revenue was recognized on deferred revenue outstanding at December 31, 2018.

Remaining performance obligations represent the transaction price of unsatisfied or partially satisfied performance obligations within contracts with an original expected contract term that is greater than one year and for which fulfillment of the contract has started as of the end of the reporting period. The aggregate amount of transaction consideration allocated to remaining performance obligations as of December 31, 2019 was \$7.6 million. The following table summarizes when the Group expects to recognize the remaining performance obligations as revenue. The Group will recognize revenue associated with these performance obligations as transfer of control occurs:

	<u>Less than</u>	<u>Greater than</u>	<u>Total</u>
	<u>1 Year</u>	<u>1 Year</u>	<u></u>
Remaining Performance Obligation*	6,344	1,220	7,564

* Required disclosure under IFRS 15 (not applicable to 2017)

Cost to Fulfill a Contract

Contract fulfillment costs include direct labor for professional services, payments made to third parties for intellectual property licenses and direct materials. Incremental costs incurred to fulfill our contracts are capitalized if these costs (i) relate directly to the contract, (ii) are expected to generate resources that will be used to satisfy the Company's performance obligation under the contract, and (iii) are expected to be recovered through revenue generated under the contract. The revenue associated with direct labor for professional services is recognized over time; therefore the costs associated are expensed as incurred. The payments made to third parties for intellectual property licenses are capitalized when paid and recognized in line with associated revenue, whether this be over time or at a point in time. As of December 31, 2018, the Group has capitalized \$0.8 million of cost to fulfill which are included within Prepaid expenses and other current assets as well as Other non-current assets on the Consolidated Statement of Financial Position. As of December 31, 2019 the remaining unamortized balance was \$0.3 million.

4. Segment Information

Basis for Segmentation

The Directors are the Group's strategic decision-makers. The Group's operating segments are reported based on the financial information provided to the Directors at least quarterly for the purposes of allocating resources and assessing performance. The Group has determined that each entity is representative of a single operating segment as the Directors monitor the financial results at this level. When identifying the reportable segments the Group

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has determined that it is appropriate to aggregate multiple operating segments into a single reportable segment given the high level of operational and financial similarities across the entities. The Group has identified four reportable segments which are outlined below. Substantially, all of the revenue and profit generating activities of the Group are generated within the US and accordingly, no geographical disclosures are provided.

During the year ended December 31, 2019, the Company deconsolidated three of its subsidiaries which resulted in a change to the composition of its reportable segments. The Company has revised the 2018 and 2017 financial information to conform to the presentation as of and for the period ending December 31, 2019. The change in segments reflects how the Company's Board of Directors reviews the Group's results, allocates resources and assesses performance. This change has been adjusted in both the current and the prior period in the tables below.

Internal

The Internal segment (the "Internal segment"), is advancing a pipeline fuelled by recent discoveries in lymphatics and immune cell trafficking to modulate disease in a tissue-specific manner. These programs leverage the transport and biodistribution of various immune system components for the targeted treatment of diseases with major unmet needs, including cancers, autoimmune diseases, and neuroimmune disorders. The Internal segment is comprised of the technologies that will be advanced through either PureTech Health funding or non-dilutive sources of financing in the near-term. The operational management of the Internal segment is conducted by the PureTech Health team, which is responsible for the strategy, business development, and research and development. As of December 31, 2019, this segment included PureTech LYT (formerly Ariya Therapeutics) and PureTech LYT 100.

Controlled Founded Entities

The Controlled Founded Entity segment (the "Controlled Founded Entity segment") is comprised of the Group's subsidiaries that are currently consolidated operational subsidiaries that either have, or have plans to hire, independent management teams and currently have already raised, or are currently in the process of raising, third-party dilutive capital. These subsidiaries have active research and development programs and either have entered into or plan to seek a strategic partnership with an equity or debt investment partner, who will provide additional industry knowledge and access to networks, as well as additional funding to continue the pursued growth of the company. As of December 31, 2019, this segment included Alivio Therapeutics, Inc., Commense Inc., Entrega Inc., Follica Incorporated, Sonde Health Inc., and Vedanta Biosciences, Inc.

Non-Controlled Founded Entities

The Non-Controlled Founded Entities segment (the "Non-Controlled Founded Entities segment") is comprised of the entities in respect of which PureTech Health (i) no longer holds majority voting control as a shareholder and (ii) no longer has the right to elect a majority of the members of the subsidiaries' Board of Directors. Upon deconsolidation of an entity the segment disclosure is restated to reflect the change on a retrospective basis, as this constitutes a change in the composition of its reportable segments. As of December 31, 2019, the Non-Controlled Founded Entities segment included resTORbio, Inc. ("resTORbio"), Akili Interactive Labs, Inc. ("Akili"), Vor Biopharma Inc. ("Vor"), Karuna Therapeutics, Inc. ("Karuna"), and Gelesis Inc. ("Gelesis").

The Non-Controlled Founded Entities segment incorporates the operational results of the aforementioned entities to the date of deconsolidation. Following the date of deconsolidation, the Company accounts for its investment in each entity at the parent level, and therefore the results associated with investment activity following the date of deconsolidation is included in the Parent Company and Other segment (the "Parent Company and Other segment").

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Parent Company and Other Segment

The Parent Company and Other segment includes activities that are not directly attributable to the operating segments, such as the activities of the Parent, corporate support functions and certain research and development support functions that are not directly attributable to a strategic business segment as well as the elimination of intercompany transactions. This segment also captures the accounting for the Company's holdings in entities for which control has been lost, which is inclusive of the following items: gain on deconsolidation, gain or loss on investments held at fair value, gain on loss of significant influence, and the share of net loss of associates accounted for using the equity method. As of December 31, 2019, this segment included PureTech Health plc, PureTech Health LLC, PureTech Management, Inc. and PureTech Securities Corp., as well as certain other dormant, inactive and shell entities.

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Information About Reportable Segments:

	2019				Consolidated \$000s
	Internal \$000s	Controlled Founded Entities \$000s	Non- Controlled Founded Entities \$000s	Parent Company & Other \$000s	
Consolidated Statements of Comprehensive Loss					
Contract revenue	6,064	2,487	—	137	8,688
Grant revenue	15	1,104	—	—	1,119
Total revenue	6,079	3,591	—	137	9,807
General and administrative expenses	(2,385)	(14,436)	(10,439)	(32,098)	(59,358)
Research and development expenses	(25,977)	(42,780)	(15,555)	(1,536)	(85,848)
Total operating expense	(28,362)	(57,216)	(25,994)	(33,634)	(145,206)
Other income/(expense):					
Gain on deconsolidation	—	—	—	264,409	264,409
Gain/(loss) on investments held at fair value	—	—	—	(37,863)	(37,863)
Gain/(loss) on disposal of assets	17	(39)	—	(60)	(82)
Gain on loss of significant influence	—	—	—	445,582	445,582
Other income/(expense)	—	166	—	(45)	121
Total other income/(expense)	17	127	—	672,023	672,167
Net finance income/(costs)	—	(16,947)	(30,141)	941	(46,147)
Share of net income/(loss) of associates accounted for using the equity method	—	—	—	30,791	30,791
Impairment of investment in associate	—	—	—	(42,938)	(42,938)
Income/(loss) before taxes	(22,266)	(70,445)	(56,135)	627,320	478,474
Income/(loss) before taxes pre IFRS 9 fair value accounting, finance costs— subsidiary preferred shares, share-based payment expense, depreciation of tangible assets and amortization of intangible assets	(21,889)	(48,996)	(21,873)	640,298	547,540
Finance income/(costs)—subsidiary preferred shares	—	107	(1,564)	(1)	(1,458)
Finance income/(costs)—IFRS 9 fair value accounting	—	(17,294)	(28,737)	(444)	(46,475)
Share-based payment expense	(5)	(1,678)	(3,543)	(9,242)	(14,468)
Depreciation of tangible assets	(376)	(1,531)	(207)	(1,114)	(3,228)
Amortization of ROU assets	—	(1,060)	(83)	(2,177)	(3,320)
Amortization of intangible assets	4	7	(128)	—	(117)
Taxation	—	(134)	(162)	(112,113)	(112,409)
Income/(loss) for the year	(22,266)	(70,579)	(56,297)	515,207	366,065
Other comprehensive income/(loss)	—	—	(10)	—	(10)
Total comprehensive income/(loss) for the year	(22,266)	(70,579)	(56,307)	515,207	366,055
Total comprehensive income/(loss) attributable to:					
Owners of the Company	(7,001)	(54,719)	(32,353)	515,207	421,134
Non-controlling interests	(15,265)	(15,860)	(23,954)	—	(55,079)
Consolidated Statements of Financial Position:					
Total assets	17,614	41,612	—	881,952	941,178
Total liabilities	12,076	132,935	—	145,768	290,779
Net assets/(liabilities)	5,538	(91,324)	—	736,184	650,399

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	2018				Consolidated \$000s
	Internal \$000s	Controlled Founded Entities \$000s	Non- Controlled Founded Entities \$000s	Parent Company & Other \$000s	
Consolidated Statements of Comprehensive Loss					
Contract revenue	2,110	14,233	—	29	16,371
Grant revenue	86	4,271	20	—	4,377
Total revenue	<u>2,195</u>	<u>18,504</u>	<u>20</u>	<u>29</u>	<u>20,748</u>
General and administrative expenses	(1,498)	(10,212)	(16,385)	(19,270)	(47,365)
Research and development expenses	(8,929)	(36,930)	(29,851)	(1,692)	(77,402)
Total operating expense	<u>(10,427)</u>	<u>(47,142)</u>	<u>(46,236)</u>	<u>(20,962)</u>	<u>(124,768)</u>
Other income/(expense):					
Gain on deconsolidation	—	—	—	41,730	41,730
Gain/(loss) on investments held at fair value	—	—	—	(34,615)	(34,615)
Gain/(loss) on disposal of assets	—	—	—	4,054	4,054
Gain on loss of significant influence	—	—	—	10,287	10,287
Other income/(expense)	—	—	104	(405)	(302)
Other income/(expense)	<u>—</u>	<u>—</u>	<u>104</u>	<u>21,051</u>	<u>21,154</u>
Net finance income/(costs)	—	5,341	5,945	14,631	25,918
Share of net income/(loss) of associate accounted for using the equity method	—	—	—	(11,490)	(11,490)
Income/(loss) before taxes	<u>(8,232)</u>	<u>(23,297)</u>	<u>(40,167)</u>	<u>3,258</u>	<u>(68,438)</u>
(Loss)/income before taxes pre IFRS 9 fair value accounting, finance costs—subsidiary preferred shares, share-based payment expense, depreciation of tangible assets and amortization of intangible assets	(8,210)	(24,344)	(38,761)	(4,234)	(75,549)
Finance income/(costs)—subsidiary preferred shares	—	—	—	(106)	(106)
Finance income/(costs)—IFRS 9 fair value accounting	—	5,341	5,516	11,775	22,631
Share-based payment expense	(11)	(2,465)	(6,262)	(3,899)	(12,637)
Depreciation of tangible assets	(7)	(1,823)	(390)	(256)	(2,476)
Amortization of intangible assets	(4)	(6)	(270)	(22)	(302)
Taxation	—	(381)	(185)	(1,655)	(2,221)
Income/(loss) for the year	<u>(8,454)</u>	<u>(26,206)</u>	<u>(41,239)</u>	<u>5,239</u>	<u>(70,659)</u>
Other comprehensive income/(loss)	—	(214)	—	(26)	(240)
Total comprehensive income/(loss) for the year	<u>(8,454)</u>	<u>(26,420)</u>	<u>(41,239)</u>	<u>5,213</u>	<u>(70,899)</u>
Total comprehensive income/(loss) attributable to:					
Owners of the Company	(1,139)	(15,710)	(32,260)	5,213	(43,894)
Non-controlling interests	(7,315)	(10,710)	(8,980)	—	(27,005)
Consolidated Statements of Financial Position:					
Total assets	2,984	15,603	35,934	387,240	441,761
Total liabilities	<u>13,366</u>	<u>60,992</u>	<u>202,161</u>	<u>(1,731)</u>	<u>274,788</u>
Net (liabilities)/assets	<u>(10,381)</u>	<u>(45,389)</u>	<u>(166,227)</u>	<u>388,970</u>	<u>166,973</u>

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	2017				Consolidated \$000s
	Internal \$000s	Controlled Founded Entities \$000s	Non- Controlled Founded Entities \$000s	Parent Company & Other \$000s	
Consolidated Statements of Comprehensive Loss					
Contract revenue	—	625	—	25	650
Grant revenue	—	1,255	630	—	1,885
Total revenue	—	1,880	630	25	2,535
General and administrative expenses	(402)	(10,671)	(17,064)	(18,146)	(46,283)
Research and development expenses	(1,515)	(25,553)	(41,395)	(3,209)	(71,672)
Total operating expense	(1,917)	(36,224)	(58,459)	(21,355)	(117,955)
Other income/(expense):					
Gain on deconsolidation	—	—	—	85,016	85,016
Gain/(loss) on investments held at fair value	—	—	—	57,334	57,334
Other income/(expense)	—	—	—	14	14
Other income/(expense)	—	—	—	142,364	142,364
Net finance income/(costs)	(22)	(10,583)	(74,495)	5,053	(80,047)
Share of net income/(loss) of associate accounted for using the equity method	—	—	—	(17,608)	(17,608)
Income/(loss) before taxes	(1,938)	(44,927)	(132,324)	108,479	(70,711)
(Loss)/income before taxes pre IAS 39 fair value accounting, finance costs—subsidiary preferred shares, share-based payment expense, depreciation of tangible assets and amortization of intangible assets	(1,938)	(34,691)	(52,275)	114,022	25,118
Finance income/(costs)—subsidiary preferred shares	—	(5,028)	(3,856)	(625)	(9,509)
Finance income/(costs)—IAS 39 fair value accounting	—	(1,652)	(70,078)	(5)	(71,735)
Share-based payment expense	—	(2,722)	(5,283)	(3,844)	(11,849)
Impairment of tangible assets	—	—	—	(637)	(637)
Depreciation of tangible assets	—	(833)	(373)	(411)	(1,617)
Amortization of intangible assets	—	(1)	(459)	(22)	(482)
Taxation	—	85	(57)	(4,411)	(4,383)
Income/(loss) for the year	(1,938)	(44,842)	(132,381)	104,067	(75,094)
Other comprehensive income/(loss)	—	408	—	1,750	2,158
Total comprehensive income/(loss) for the year	(1,938)	(44,434)	(132,381)	105,817	(72,936)
Total comprehensive income/(loss) attributable to:					
Owners of the Company	(454)	(35,098)	(41,635)	105,817	28,630
Non-controlling interests	(1,484)	(9,336)	(90,746)	—	(101,566)

The Parent commences initiatives in theme-based technologies, raises capital for investment in new companies and existing subsidiaries, provides other corporate shared services and support for all subsidiaries and manages the new program creation process.

The activity between the Parent and the reporting segments has been eliminated in consolidation. These elimination amounts are allocated to the subsidiaries.

The proportion of net assets shown above that is attributable to non-controlling interest is disclosed in Note 16. The Non-Controlled Founded Entities consist of the Company's minority interest holdings.

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5. Investments held at fair value

Investments held at fair value include both unlisted and listed securities held by PureTech. These investments, which include Akili, Vor, Karuna, Gelesis (other than the investment in common shares—please refer to Note 6), resTORbio and other insignificant investments, are initially measured at fair value and are subsequently re-measured at fair value at each reporting date. Interests in these investments are accounted for as investments held at fair value, as shown below:

<u>Investments held at fair value</u>	<u>\$000's</u>
Balance at January 1, 2018	131,351
Deconsolidation of Akili	70,748
Reclassification of investment to investment in associate	2,297
Gain—comprehensive income/(loss)	(26)
Loss—fair value through profit and loss	(34,615)
Balance at December 31, 2018 and January 1, 2019	169,755
Deconsolidation of subsidiaries (Vor, Karuna and Gelesis (Note 6))	138,571
Reclassification of Karuna investment to investment in associate	(118,006)
Gain on Karuna investment at initial public offering ¹	40,633
Cash purchase of Gelesis convertible notes (please refer to Note 6)	6,480
Cash purchase of Gelesis preferred shares (please refer to Note 6)	8,020
Reclassification of Karuna investment at loss of significant influence	557,243
Sale of resTORbio shares	(9,295)
Loss—fair value through profit and loss ¹	(78,496)
As of December 31, 2019	<u>714,905</u>

- (1) The net amount of these two items is a loss of \$37.9 million which is reported on the line Gain/(loss) on investments held at fair value in the Consolidated Statements of Comprehensive Income/(Loss).

Vor

Vor was founded by PureTech through an initial Series A-1 Preferred Shares financing and raised funds through issuance of convertible notes. As of December 31, 2018, PureTech maintained control of Vor and the subsidiary's financial results were fully consolidated in the Group's consolidated financial statements.

On February 12, 2019, Vor completed a Series A-2 Preferred Shares financing round with PureTech and several new third party investors. The financing provided for the purchase of 62,819,866 shares of Vor Series A-2 Preferred Shares at the purchase price of \$0.40 per share.

As a result of the issuance of Series A-2 preferred shares to third-party investors, PureTech's ownership percentage and corresponding voting rights dropped from 79.5 percent to 47.5 percent, and PureTech simultaneously gave up control on Vor's Board of Directors, both of which triggered a loss of control over the entity. As of February 12, 2019, Vor was deconsolidated from the Group's financial statements, resulting in only the profits and losses generated by Vor through the deconsolidation date being included in the Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss). While the Company no longer controls Vor, it was concluded that PureTech still had significant influence over Vor by virtue of its large, albeit minority, ownership stake and its continued representation on Vor's Board of Directors. PureTech still has the power to participate in the financial and operating policy decisions of the entity, although it does not control these policies. During the year ended December 31, 2019, the Company recognized a \$6.4 million gain on the deconsolidation of Vor, which was recorded to the Gain on the deconsolidation of subsidiary line item in the Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss).

As PureTech did not hold common shares in Vor upon deconsolidation and the preferred shares it holds do not have equity-like features, the voting percentage attributable to common shares is nil. Therefore, PureTech had no

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basis to account for its investment in Vor under IAS 28. The preferred shares held by PureTech fall under the guidance of IFRS 9 and will be treated as a financial asset held at fair value through the Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss). The fair value of the preferred shares at deconsolidation was \$12.0 million.

During the year ended December 31, 2019, the Company recognized a gain of \$0.6 million that was recorded on the line item Gain/(loss) on investments held at fair value within the Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss). Please refer to Note 16 for information regarding the valuation of these instruments.

Karuna

Karuna was founded by PureTech and raised funding through Preferred Share financings as well as convertible note issuances. As of December 31, 2018, PureTech maintained control of Karuna and Karuna's financial statements were fully consolidated in the Group's consolidated financial statements.

On March 15, 2019, Karuna completed the closing of a Series B Preferred Share financing with PureTech and several new third party investors. The financing provided for the purchase of 5,285,102 shares of Karuna Series B Preferred Shares at a purchase price of \$15.14 per share.

As a result of the issuance of the preferred shares to third-party investors, PureTech's ownership percentage and corresponding voting rights related to Karuna dropped from 70.9 percent to 44.3 percent, and PureTech simultaneously lost control over Karuna's Board of Directors, both of which triggered a loss of control over the entity. As of March 15, 2019, Karuna was deconsolidated from the Group's financial statements, resulting in only the profits and losses generated by Karuna through the deconsolidation date being included in the Group's Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss). At the date of deconsolidation, PureTech recorded a \$102.0 million gain on the deconsolidation of Karuna, which was recorded to the Gain on the deconsolidation of subsidiary line item in the Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss). While the Company no longer controls Karuna, it was concluded that PureTech still had significant influence over Karuna by virtue of its large, albeit minority, ownership stake and its continued representation on Karuna's Board of Directors. PureTech still had the power to participate in the financial and operating policy decisions of the entity, although it did not control these policies. As PureTech had significant influence over Karuna, the entity was accounted for as an associate under IAS 28.

Upon the date of deconsolidation, PureTech held both preferred and common shares in Karuna and a warrant issued by Karuna to PureTech. The preferred shares and warrant held by PureTech fell under the guidance of IFRS 9 and were treated as financial assets held at fair value, and all movements to the value of preferred shares held by PureTech were recorded through the Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss), in accordance with IFRS 9. The fair value of the preferred shares and warrant at deconsolidation was \$72.4 million. Subsequent to deconsolidation, PureTech purchased an additional \$5.0 million of Karuna Series B Preferred shares, for a total fair value immediately following deconsolidation of \$77.4 million.

Due to the immaterial investment in common shares and overwhelmingly large losses by Karuna, the common share investment accounted for under the equity method was remeasured to nil immediately following both the deconsolidation and the exercise of the warrant in the first half of 2019.

On June 28, 2019, Karuna priced its IPO. PureTech's ownership percentage and corresponding voting rights related to Karuna dropped from 44.3 percent to 31.6 percent; however, PureTech retained significant influence due to its continued presence on the board and its large, albeit minority, equity stake in the company. Upon completion of the IPO, the Karuna preferred shares held by PureTech converted to common shares. In light of PureTech's common share holdings in Karuna and corresponding voting rights, PureTech had re-established a basis to account for its investment in Karuna under IAS 28. The preferred shares investment held at fair value

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was therefore reclassified to investment in associate upon completion of the conversion. During the year ended December 31, 2019 and up to June 28, 2019, the Company recognized a gain of \$40.6 million that was recorded on the line item Gain on investments held at fair value within the Consolidated Statement of Comprehensive Income/(Loss) related to the preferred shares that increased in value between the date of deconsolidation and the date of Karuna's IPO.

As of December 2, 2019 it was concluded that the Company no longer exerted significant influence over Karuna owing to the resignation of the PureTech designee from Karuna's board of directors, with PureTech retaining no ability to reappoint representation. Furthermore, PureTech is not involved in any manner, or has any influence, on the management of Karuna, or on any of its decision making processes and has no ability to do so. As such, PureTech lost the power to participate in the financial and operating policy decisions of Karuna. As a result, Karuna is no longer deemed an Associate and does not meet the scope of equity method accounting, resulting in the investment being accounted for as an investment held at fair value. As of December 2, 2019 the Company's interest in Karuna was 28.4 percent. For the period of June 28, 2019 through December 2, 2019, PureTech's investment in Karuna was subject to equity method accounting. In accordance with IAS 28, the Company's investment was adjusted by the share of losses generated by Karuna (weighted average of 31.4 percent based on common stock ownership interest), which resulted in a net loss of associates accounted for using the equity method of \$6.3 million during the year ended December 31, 2019.

Upon PureTech's loss of significant influence, the investment in Karuna was reclassified to an investment held at fair value. This change led PureTech to recognize a gain on loss of significant influence of \$445.6 million that was recorded to the Consolidated Statement of Income/(Loss) on the line item Gain on loss of significant influence during the year ended December 31, 2019. The investment in Karuna after the recording of the gain on loss of significant influence was \$557.2 million, which was reclassified from Investments in associates to Investments held at fair value. Additionally, from December 2, 2019 PureTech recorded a \$0.7 million loss on the line item Gain/(loss) on investments held at fair value within the Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss) for the year ended December 31, 2019.

Akili

On May 8, 2018, Akili completed the first closing of a Series C Preferred Stock financing in which PureTech Health did not invest. As a result of the issuance of the preferred shares to third-party investors, following the first close of the Series C financing, PureTech's ownership percentage and corresponding voting rights related to Akili dropped from 61.8 percent to 41.9 percent, triggering a loss of control over the entity. As of May 2018, Akili was deconsolidated from the Group's financial statements, resulting in only the profits and losses generated by Akili through May 2018 being included in the Group's Consolidated Statements of Comprehensive Income/(Loss). As a result of the deconsolidation, PureTech recognized a \$41.7 million gain on the deconsolidation during the year ended December 31, 2018, which was recorded to the Consolidated Statement of Comprehensive Income/(Loss) on the line item Gain on the deconsolidation of subsidiary.

As PureTech did not hold common shares in Akili upon deconsolidation and the preferred shares it holds do not have equity-like features, the voting percentage attributable to common shares is nil. Therefore, PureTech had no basis to account for its investment in Akili under IAS 28. The preferred shares held by PureTech Health fall under the guidance of IFRS 9 and will be treated as a financial asset held at fair value and all movements to the value of PureTech's share in the preferred shares will be recorded through the Consolidated Statements of Comprehensive Income/(Loss), in accordance with IFRS 9. During the year ended December 31, 2019 and 2018, the Company recognized a gain of \$11.5 million and \$12.7 million, respectively, that was recorded on the line item Loss on investments held at fair value within the Consolidated Statements of Comprehensive Income/(Loss). Please refer to Note 16 for information regarding the valuation of these instruments.

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resTORbio

On January 26, 2018, resTORbio, Inc., closed its initial public offering. Prior to the resTORbio IPO, PureTech Health recorded a loss of \$14.3 million during the year ended December 31, 2018 to the Consolidated Statement of Income/(Loss) within Gain/(Loss) on investments held at Fair Value to adjust the fair value related to its resTORbio Series A Preferred Share investment. Upon completion of the public offering, the resTORbio Series A Preferred Shares held by PureTech Health converted to common shares. In light of PureTech's common shares holdings in resTORbio and corresponding voting rights, the preferred shares investment held at fair value was reclassified to investment in associate upon the completion of the conversion.

For the period of January 1, 2018 through November 5, 2018, PureTech's investment in resTORbio was subject to equity method accounting. In accordance with IAS 28, PureTech's investment was adjusted by the share of profits and losses generated by resTORbio (34.9 percent based on common stock ownership interest), which resulted in a net loss of associates of \$11.5 million accounted for using the equity method which was recorded to the Consolidated Statement of Income/(Loss) on the line item Share of net loss of associates during the year ended December 31, 2018.

As of November 6, 2018, it was that concluded the Company no longer exerted significant influence over resTORbio, as PureTech lost the power to participate in the financial and operating policy decisions of resTORbio. As a result, resTORbio is no longer deemed an Associate and does not meet the scope of equity method accounting, resulting in the investment being accounted for as an investment held at fair value. For the period of January 1, 2018 through November 5, 2018, PureTech's investment in resTORbio was subject to equity method accounting. In accordance with IAS 28, PureTech's investment was adjusted by the share of profits and losses generated by resTORbio, that resulted a net loss of associates accounted for using the equity method of \$11.5 million that was recorded to the Consolidated Statement of Income/(Loss) on the line item Share of net loss of associates accounted for using the equity method during the year ended December 31, 2018. This change led PureTech to recognize a gain on loss of significant influence of \$10.3 million that was recorded to the Consolidated Statement of Income/(Loss) on the line item Gain on loss of significant influence during the year ended December 31, 2018. Additionally, PureTech recorded a loss of \$33.0 million for the adjustment to fair value in connection with its investment in resTORbio to the Consolidated Statement of Income/(Loss) on the line item Loss on financial asset during the year ended December 31, 2018.

On November 15, 2019, resTORbio announced that top line data from the Protector 1 Phase 3 study evaluating the safety and efficacy of RTB101 in preventing clinically symptomatic respiratory illness in adults age 65 and older, did not meet its primary endpoint and the Company has stopped the development of RTB101 in this indication. As a result of ceasing the development of RTB101, resTORbio's share price witnessed a decline in price. In November and December 2019, PureTech Health sold 7,680,700 common shares of resTORbio for aggregate proceeds of \$9.3 million. Immediately following the sale of common shares, PureTech Health held 2,119,696 common shares, or 5.8 percent, of resTORbio. Additionally, PureTech recorded a loss of \$71.9 million for the adjustment to fair value in connection with its investment in resTORbio to the Consolidated Statement of Income/(Loss) on the line item Loss on financial asset during the year ended December 31, 2019.

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Gain on deconsolidation

The following table summarizes the gain on deconsolidation recognized by the Company:

<u>Year ended December 31,</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
	<u>\$000s</u>	<u>\$000s</u>	<u>\$000s</u>
Gain on deconsolidation of Akili	—	41,730	—
Gain on deconsolidation of Vor	6,357	—	—
Gain on deconsolidation of Karuna	102,038	—	—
Gain on deconsolidation of resTORbio	—	—	85,016
Gain on deconsolidation of Gelesis [Note 6]	156,014	—	—
Total gain on deconsolidation	264,409	41,730	85,016

6. Investments in Associates

Gelesis

Gelesis was founded by PureTech and raised funding through preferred shares financings as well as issuances of warrants and loans. As of December 31, 2018, PureTech maintained control of Gelesis and the subsidiary's financial results were fully consolidated in the Group's consolidated financial statements.

On July 1, 2019, the Gelesis Board of Directors was restructured, resulting in two of the three PureTech representatives resigning from the Board with PureTech retaining no ability to reappoint directors to these board seats. As a result of this restructuring, PureTech lost control over Gelesis' Board of Directors, which triggered a loss of control over the entity. At the deconsolidation date, PureTech held a 25.2% voting interest in Gelesis. As of July 1, 2019, Gelesis was deconsolidated from the Group's financial statements, resulting in only the profits and losses generated by Gelesis through the deconsolidation date being included in the Group's Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss). At the date of deconsolidation, PureTech recorded a \$156.0 million gain on the deconsolidation of Gelesis, which was recorded to the Gain on the deconsolidation of subsidiary line item in the Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss). While the Company no longer controls Gelesis, it was concluded that PureTech still has significant influence over Gelesis by virtue of its large, albeit minority, ownership stake and its continued representation on Gelesis' Board of Directors. PureTech still has the power to participate in the financial and operating policy decisions of the entity, although it does not control these policies. As PureTech is able to demonstrate that it has significant influence over Gelesis, the entity will be accounted for as an associate under IAS 28, starting at the date of deconsolidation.

Upon the date of deconsolidation, PureTech held shares of preferred shares and common shares of Gelesis and a warrant issued by Gelesis to PureTech. PureTech's investment in common shares of Gelesis is subject to equity method accounting with an initial investment of \$16.4 million. In accordance with IAS 28, PureTech's investment was adjusted by the share of profits and losses generated by Gelesis subsequent to the date of deconsolidation. PureTech recognized its share in the net profit of Gelesis (weighted average of 49.8% based on common stock ownership interest) for the period from deconsolidation date until December 31, 2019 in the amount of \$37.1 million.

The preferred shares and warrant held by PureTech fall under the guidance of IFRS 9 and will be treated as financial assets held at fair value and all movements to the value of PureTech's share in the preferred shares will be recorded through the Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss), in accordance with IFRS 9. The fair value of the preferred shares and warrant at deconsolidation was \$49.2 million.

During the year ended December 31, 2019, the Company recognized a loss of \$18.7 million related to the preferred shares and warrants that was recorded on the line item Gain/(loss) on investments held at fair value

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within the Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss). This loss occurred as a result of the Gelesis Series 3 Growth financing, which was executed with terms that resulted in a decrease in fair value across all other classes of preferred shares.

On August 12, 2019, Gelesis issued a convertible promissory note to the Company in the amount of \$2 million. On October 7, 2019, Gelesis issued an amended and restated convertible note (the “Gelesis Note”) to the Company in the principal amount of up to \$6.5 million. The Gelesis Note was payable in installments, with \$2.0 million of the note drawn down upon execution of the original note in August 2019 and an additional \$3.3 million and \$1.2 million drawn down on October 7, 2019 and November 5, 2019, respectively. The Gelesis Note was convertible upon the occurrence of Gelesis’ next qualified equity financing, or at the demand of the Company at any date after December 31, 2019. The Gelesis Note falls under the guidance of IFRS 9 and will be treated as a financial asset held at fair and all movements to the value of the note will be recorded through the Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss).

On December 5, 2019, Gelesis closed its Series 3 Growth Preferred Stock financing, at which point all outstanding principal and interest under the Gelesis Note converted into shares of Series 3 Growth Preferred Stock. In addition to the shares issued upon conversion of the Gelesis Note, PureTech purchased \$8 million of Series 3 Growth Preferred Stock in the December financing.

Impairment loss

Following the issuance of the Gelesis Series 3 Preferred Shares at a higher valuation than the previous round with some favorable liquidation provisions primarily to PureTech and also to the other Series 3 preferred share investors, which resulted in adjustments to the fair values of other preferred shares, warrant classes and Gelesis common stock, the Company assessed the investment in common shares held in Gelesis for impairment. Management compared the recoverable amount of the investment to its carrying amount as of December 31, 2019, which resulted in an impairment loss to the Investment in Gelesis. The recoverable amount was estimated based on the fair value of the Gelesis common shares held by PureTech, which are considered to be within Level 3 of the fair value hierarchy. The costs of disposal are immaterial for the calculation of Gelesis investment’s recoverable amount.

During the year ended December 31, 2019, the total fair value of common shares was determined utilizing a hybrid valuation approach with significant unobservable inputs within the PureTech valuation framework (refer to Note 16). The multi-scenario hybrid valuation approach utilized the recent transaction method within an option pricing framework and an IPO scenario within a probability-weighted-expected return framework to determine the value allocation for the common share class of Gelesis. The fair value of the common shares was determined as the calculated business enterprise value allocated to the outstanding common shares treated as call options within the OPM or the value of common shares within the PWERM. The PWERM maintained a 75.0 percent probability of occurrence while the OPM maintained a 25.0 percent probability of occurrence. The probability weighted term to exit was 1.57 years. The discount rate utilized was 20.0 percent while the risk-free rate and volatility utilized were 1.62 percent and 56.0 percent, respectively.

The impairment loss amounted to \$42.9 million and was recorded to Impairment of investment in associate within the Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss) for the year ended December 31, 2019. As of December 31, 2019 the investment in Gelesis was \$10.6 million, which is equal to the fair value of the common shares held by PureTech.

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The following table summarizes the activity related to the investment in associates balance for the years ended December 31, 2019 and 2018.

<u>Investment in Associates</u>	<u>\$000's</u>
At January 1, 2018	—
Investment upon initial public offering of resTORbio	115,210
Cash investment in Associate	3,500
Share of net loss of resTORbio accounted for using the equity method	(11,490)
Gain on loss of significant influence of resTORbio	10,287
Reclassification of resTORbio investment upon loss of significant influence	(117,507)
As of December 31, 2018 and January 1, 2019	—
Reclassification of Karuna investment at initial public offering	118,006
Investment in Gelesis upon deconsolidation	16,444
Share of net loss of Karuna accounted for using the equity method	(6,345)
Share of net profit of Gelesis accounted for using the equity method	37,136
Impairment of investment in Gelesis	(42,938)
Reclassification of investment upon loss of significant influence	(111,661)
As of December 31, 2019	10,642

The following table summarizes the financial information of Gelesis as included in its own financial statements, adjusted for fair value adjustments at deconsolidation and differences in accounting policies. The table also reconciles the summarized financial information to the carrying amount of the Company's interest in Gelesis. The information for the year ended December 31, 2019 includes the results of Gelesis only for the period July 1, 2019 to December 31, 2019, as Gelesis was consolidated prior to this period.

<u>Year ended December 31,</u>	<u>2019</u> <u>\$000s</u>
Percentage ownership interest—common stock	49.3%
Non-current assets	369,336
Current assets	40,079
Non-current liabilities	82,406
Current liabilities	216,852
Net assets (100%)	110,157
Group's share of net assets (49.3%)	54,340
Share in associate's equity settled share based payments	(760)
Investment before impairment	53,580
Impairment of investment in associate	(42,938)
Investment in associate	10,642
Revenue	—
Income from continuing operations (100%)	74,573
Total comprehensive income (100%)	74,573
Group's share of total comprehensive income (49.8%)	37,136

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7. Operating Expenses

Total operating expenses were as follows:

<u>For the years ending December 31,</u>	<u>2019</u> <u>\$000s</u>	<u>2018</u> <u>\$000s</u>	<u>2017</u> <u>\$000s</u>
General and administrative	59,358	47,365	46,283
Research and development	85,848	77,402	71,672
Total operating expenses	145,206	124,767	117,955

The average number of persons employed by the Group during the year, analyzed by category, was as follows:

<u>For the years ending December 31,</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
General and administrative	39	55	56
Research and development	90	90	82
Total	129	145	138

The aggregate payroll costs of these persons were as follows:

<u>For the years ending December 31,</u>	<u>2019</u> <u>\$000s</u>	<u>2018</u> <u>\$000s</u>	<u>2017</u> <u>\$000s</u>
General and administrative	24,468	22,939	22,348
Research and development	20,682	20,109	18,956
Total	45,150	43,048	41,304

Detailed operating expenses were as follows:

<u>For the years ending December 31,</u>	<u>2019</u> <u>\$000s</u>	<u>2018</u> <u>\$000s</u>	<u>2017</u> <u>\$000s</u>
Salaries and wages	27,703	27,274	26,244
Healthcare benefits	1,511	1,465	1,699
Payroll taxes	1,468	1,672	1,512
Share-based payments	14,468	12,637	11,849
Total payroll costs	45,150	43,048	41,304
Other selling, general and administrative expenses	34,890	24,426	23,935
Other research and development expenses	65,166	57,293	52,716
Total other operating expenses	100,056	81,719	76,651
Total operating expenses	145,206	124,767	117,955

Auditors remuneration:

<u>For the years ended December 31,</u>	<u>2019</u> <u>\$000s</u>	<u>2018</u> <u>\$000s</u>	<u>2017</u> <u>\$000s</u>
Audit of these financial statements	870	652	647
Audit of the financial statements of subsidiaries	290	200	254
Audit-related assurance services	163	162	132
Non-audit related services	778	159	—
Taxation	—	—	8
Total	2,101	1,173	1,041

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Please refer to Note 8 for further disclosures related to share-based payments and Note 24 for management’s remuneration disclosures.

8. Share-based Payments

Share-based payments includes stock options, restricted stock units (“RSUs”) and performance-based restricted share unit awards in which the expense is recognized based on the grant date fair value of these awards.

Share-based Payment Expense

The Group share-based payment expense for the years ended December 31, 2019, 2018 and 2017, were comprised of charges related to the PureTech Health plc incentive stock and stock option issuances and subsidiary stock plans.

The following table provides the classification of the Group’s consolidated share-based payment expense as reflected in the Consolidated Statement of Income/(Loss):

<u>For the years ended December 31,</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
	<u>\$000s</u>	<u>\$000s</u>	<u>\$000s</u>
General and administrative	10,677	5,293	7,625
Research and development	3,791	7,344	4,224
Total	14,468	12,637	11,849

There was no income tax benefit recognized for share-based payment arrangements during the periods presented due to existence of operating losses for all issuing entities.

In conjunction with the acquisition of the remaining minority interests of Ariya Therapeutics Inc. (“Ariya”) (Please refer to Note 18), PureTech Health exchanged Ayria stock options previously granted to the co-inventors and advisors of Ariya with stock options to purchase 2,147,295 of the Company’s ordinary shares under the PureTech Health Performance Share Plan. As this was an exchange of awards within the consolidated group, whereby the Company’s stock options were replacing Ariya’s stock options, the exchange is accounted for as a modification of the original award and the incremental fair value on the date of the replacement is amortized over the remaining vesting period of the awards.

The Performance Share Plan

In June 2015, the Group adopted the Performance Stock Plan (“PSP”). Under the PSP and subsequent amendments, awards of ordinary shares may be made to the Directors, senior managers and employees of, and other individuals providing services to the Company and its subsidiaries up to a maximum authorized amount of 10.0 percent of the total ordinary shares outstanding. The shares have various vesting terms over a period of service between two and four years, provided the recipient remains continuously engaged as a service provider.

The share-based awards granted under the PSP are equity settled and expire 10 years from the grant date. As of the years ended December 31, 2019, 2018 and 2017, the Company had issued share-based awards to purchase an aggregate of 5,409,751, 5,657,602 and 6,448,226 shares, respectively, under this plan.

RSUs

During the twelve months ended December 31, 2019, 2018 and 2017, the Company issued 1,775, 568, 2,860,782 and 4,648,084 performance based RSUs under the PSP, respectively.

Each RSU entitles the holder to one ordinary share on vesting and the RSU awards are based on a cliff vesting schedule over a three-year requisite service period in which the Company recognizes compensation expense on a

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graded basis for the RSUs. Following vesting, each recipient will be required to make a payment of one pence per ordinary share on settlement of the RSUs. Vesting of the RSUs is subject to the satisfaction of performance conditions.

The Company recognizes the estimated fair value of performance-based awards as share-based compensation expense over the performance period based upon its determination of whether it is probable that the performance targets will be achieved. The Company assesses the probability of achieving the performance targets at each reporting period. Cumulative adjustments, if any, are recorded to reflect subsequent changes in the estimated outcome of performance-related conditions.

The fair value of the performance-based awards is based on the Monte Carlo simulation analysis utilizing a Geometric Brownian Motion process with 100,000 simulations to value those shares. The model considers share price volatility, risk-free rate and other covariance of comparable public companies and other market data to predict distribution of relative share performance.

The performance conditions attached to the 2019 RSU awards are based on the achievement of total shareholder return ("TSR"), with 50.0 percent of the shares under award vesting based on the achievement of absolute TSR targets, 12.5 percent of the shares under the award vesting based on TSR as compared to the FTSE 250 Index, 12.5 percent of the shares under the award vesting based on TSR as compared to the MSCI Europe Health Care Index, and 25.0 percent of the shares under the award vesting based on the achievement of strategic targets. The RSU award performance criteria have changed over time as the criteria is continually evaluated by the Group's Remuneration Committee.

The Company incurred share-based payment expenses for performance based RSUs of \$2.2 million, \$2.3 million and \$1.5 million for the twelve months ended December 31, 2019, 2018 and 2017, respectively.

Stock Options

During the twelve months ended December 31, 2019, 2018 and 2017, the Company granted 3,634,183, 2,796,820 and 1,800,142 stock option awards under the PSP, respectively.

The fair value of the stock options awarded by the Company was estimated at the grant date using the Black-Scholes option valuation model, considering the terms and conditions upon which options were granted, with the following weighted- average assumptions:

<u>At December 31,</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
Expected volatility	35.68%	44.18%	28.92%
Expected terms (in years)	5.81	6.08	5.84
Risk-free interest rate	1.85%	2.79%	1.96%
Expected dividend yield	—	—	—
Grant date fair value	\$ 2.23	\$ 0.96	\$ 0.43
Share price at grant date	\$ 2.57	\$ 2.05	\$ 1.45

The Company incurred share-based payment expense for the stock options of \$9.2 million, \$1.4 million and \$0.6 million for the twelve months ended December 31, 2019, 2018 and 2017, respectively. The significant increase for the year ended December 31, 2019, as compared to the year ended December 31, 2018, is largely attributable to the amortization of share based payments awarded to the Ariya founders.

As of December 31, 2019, 4,229,793 incentive options are exercisable with a weighted-average exercise price of \$1.42. Exercise prices ranged from \$0.01 to \$4.62.

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PureTech LLC Incentive Stock Issuance

In May 2015 and August 2014, the directors of PureTech Health LLC approved the issuance of shares to the management team, directors and advisors of PureTech Health LLC, subject to vesting restrictions. The share-based awards granted under the 2016 PureTech LLC Incentive Stock Issuance Plan are equity settled and expire 10 years from the grant date. No additional shares will be granted under this compensation arrangement. The fair value of the shares awarded was estimated as of the date of grant.

The Company incurred an expense of nil, \$0.2 million, and \$1.7 million in share-based payment expense for the twelve months ended December 31, 2019, 2018 and 2017, respectively, related to PureTech Health LLC incentive compensation.

As of December 31, 2018, all shares related to the pre-IPO incentive compensation plan had fully vested.

Subsidiary Plans

Certain subsidiaries of the Group have adopted stock option plans. A summary of stock option activity by number of shares in these subsidiaries is presented in the following table:

	Outstanding as of January 1, 2019	Granted During the Year	Exercised During the Year	Expired During the Year	Forfeited During the Year	Outstanding as of December 31, 2019
Gelesis	3,681,732	—	—	(110,386)	(3,571,346) ¹	—
Alivio	2,393,750	1,329,494	(3,125)	—	(21,875)	3,698,244
PureTech LYT	2,180,000	—	—	—	(2,180,000) ²	—
Commense	540,416	—	—	—	(540,416)	—
Entrega	914,000	58,000	—	—	—	972,000
Follica	1,229,452	79,588	—	—	—	1,309,040
Karuna	1,949,927	—	—	—	(1,949,927) ¹	—
Sonde	22,500	1,806,504	—	—	—	1,829,004
Vedanta	1,373,750	154,193	—	—	(77,843)	1,450,100

1. These shares represent the options outstanding on the date of deconsolidation of Karuna and Gelesis.
2. These shares represent the options outstanding on the date of exchange to PureTech stock options.

	Outstanding as of January 1, 2018	Granted During the Year	Exercised During the Year	Expired During the Year	Forfeited During the Year	Outstanding as of December 31, 2018
Gelesis	2,728,232	953,500	—	—	—	3,681,732
Alivio	2,393,750	—	—	—	—	2,393,750
Akili	2,385,355	—	—	—	(2,385,355) ¹	—
PureTech LYT	—	2,180,000	—	—	—	2,180,000
Commense	418,750	121,666	—	—	—	540,416
Entrega	867,750	60,000	—	(3,750)	(10,000)	914,000
Follica	1,271,302	—	—	(41,850)	—	1,229,452
Karuna	855,427	1,111,000	—	(4,125)	(12,375)	1,949,927
Knode	32,500	—	—	(32,500)	—	—
Sonde	35,000	—	—	(6,250)	(6,250)	22,500
Tal	1,663,806	—	—	(30,250)	(2,750)	1,630,806
The Sync Project	1,080,000	—	—	—	(1,080,000)	—
Vedanta	1,194,014	278,786	—	(24,800)	(74,250)	1,373,750

1. These shares represent the options outstanding on the date of Akili's deconsolidation.

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	Outstanding as of January 1, 2017	Granted During the Year	Exercised During the Year	Expired During the Year	Forfeited During the Year	Outstanding as of December 31, 2017
Gelesis	2,489,031	297,500	—	—	(58,299)	2,728,232
Alivio	—	2,393,750	—	—	—	2,393,750
Akili	1,599,423	795,432	(9,500)	—	—	2,385,355
PureTech LYT	—	—	—	—	—	—
Commense	400,000	18,750	—	—	—	418,750
Entrega	821,500	52,500	—	—	(6,250)	867,750
Follica	449,505	1,119,283	—	(190,059)	(107,427)	1,271,302
Karuna	742,677	112,750	—	—	—	855,427
Knode	75,000	—	—	(45,000)	2,500	32,500
Sonde	—	57,500	—	(4,687)	(17,813)	35,000
Tal	1,763,806	—	—	(75,000)	(25,000)	1,663,806
The Sync Project	850,000	230,000	—	—	—	1,080,000
Vedanta	882,250	359,764	—	(11,438)	(36,562)	1,194,014

The weighted average exercise prices for the options outstanding as of January 1, 2019 were as follows:

Outstanding at January 1, 2019	Number of options	Weighted-average exercise price \$
Alivio	2,393,750	0.03
Entrega	914,000	0.71
Follica	1,229,452	0.92
Sonde	22,500	0.12
Vedanta	1,373,750	9.30

The weighted average exercise prices for the options granted for the years ended December 31, 2019, 2018 and 2017 were as follows:

For the years ended December 31,	2019 \$	2018 \$	2017 \$
Akili	—	—	2.55
Alivio	0.49	—	0.03
PureTech LYT	—	0.03	—
Commense	—	1.34	0.92
Entrega	—	1.95	2.36
Follica	0.03	—	0.93
Karuna	—	9.42	7.08
Sonde	0.20	—	0.13
Sync	—	—	0.07
Vedanta	19.13	14.66	12.88

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The weighted average exercise prices for options forfeited during the year ended December 31, 2019 were as follows:

<u>Forfeited during the year ended December 31, 2019</u>	<u>Number of options</u>	<u>Weighted-average exercise price</u> \$
Gelesis	3,571,346	7.48
Alivio	21,875	0.49
PureTech LYT	2,180,000	0.01
Commense	540,416	0.13
Karuna	1,949,927	5.10
Vedanta	77,843	1.31

The weighted average exercise prices for options exercisable as of December 31, 2019 were as follows:

<u>Exercisable at December 31, 2019</u>	<u>Number of Options</u>	<u>Weighted-average exercise price</u> \$	<u>Exercise Price Range</u>
Alivio	1,419,750	\$ 0.04	\$ 0.03 - \$0.49
Entrega	882,062	\$ 0.60	\$ 0.03 - \$2.36
Follica	1,118,635	\$ 0.89	\$ 0.03 - \$1.40
Sonde	191,405	\$ 0.18	\$ 0.13 - \$0.20
Vedanta	1,081,005	\$ 7.05	\$0.02 - \$19.94

Significant Subsidiary Plans

Vedanta 2010 Stock Incentive Plan

In 2010, the Board of Directors for Vedanta approved the 2010 Stock Incentive Plan (the “Vedanta Plan”). Through subsequent amendments, as of December 31, 2019, it allowed for the issuance of 2,145,867 share-based compensation awards through incentive share options, nonqualified share options, and restricted shares to employees, directors, and nonemployees providing services to Vedanta. At December 31, 2019, 595,642 shares remained available for issuance under the Vedanta Plan.

The options granted under Vedanta Plan are equity settled and expire 10 years from the grant date. Typically, the awards vest in four years but vesting conditions can vary based on the discretion of Vedanta’s Board of Directors.

Options granted under the Vedanta Plan are exercisable at a price per share not less than the fair market value of the underlying ordinary shares on the date of grant. The estimated fair value of options, including the effect of estimated forfeitures, is recognized over the options’ vesting period.

The fair value of the stock option grants has been estimated at the date of grant using the Black-Scholes option pricing model with the following range of assumptions:

<u>Assumption/Input</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
Expected award life (in years)	5.86-6.07	6.03-6.16	5.66-10.00
Expected award price volatility	89.24% - 95.46%	91.60% - 92.56%	66.0% - 76.0%
Risk free interest rate	1.73% - 1.88%	2.65% - 2.78%	1.13% - 2.37%
Expected dividend yield	—	—	—
Grant date fair value	\$14.12 - \$15.61	\$11.21 - \$11.26	\$6.76 - \$9.01
Share price at grant date	\$18.71 - \$19.94	\$14.66	\$12.88

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Vedanta incurred share-based compensation expense of \$1.7 million, \$2.1 million and \$2.4 million for the years ended December 31, 2019, 2018 and 2017, respectively.

Gelesis 2016 Stock Incentive Plan

In September 2016, the Directors of Gelesis approved the 2016 Stock Incentive Plan (the “2016 Gelesis Plan”) which provides for the grant of incentive stock options, nonqualified stock options, and restricted stock to employees, directors, and nonemployees providing services to Gelesis. At June 30, 2019, 329,559 shares remained available for issuance under the Gelesis Plan.

The options granted under the 2016 Gelesis Plan are equity settled and expire 10 years from the grant date. Typically, the awards vest in four years but vesting conditions can vary based on the discretion of Gelesis Board of Directors.

Options granted under the 2016 Gelesis Plan are exercisable at a price per share not less than the fair market value of the underlying ordinary shares on the date of grant. The estimated fair value of options, including the effect of estimated forfeitures, is recognized over the options’ vesting period.

The fair value of the stock option grants has been estimated at the date of grant using the Black-Scholes option pricing model with the following weighted average assumptions:

<u>Assumption/Input</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
Expected award life (in years)	—	6.22	5.68
Expected award price volatility	— %	64.58%	67.99%
Risk free interest rate	— %	2.79%	1.80%
Expected dividend yield	—	—	—
Grant date fair value	\$—	\$ 7.84	\$ 7.72
Share price at grant date	\$—	\$12.82	\$11.56

Gelesis used an average historical share price volatility based on an analysis of reported data for a peer group of comparable companies which were selected based upon industry similarities. As there is not sufficient historical share exercise data to calculate the expected term of the options, Gelesis elected to use the “simplified” method for all options granted at the money to value share option grants. Under this approach, the weighted average expected life is presumed to be the average of the vesting term and the contractual term of the option.

Gelesis incurred share-based compensation expense of \$2.4 million for the six month period prior to deconsolidation ended June 30, 2019 and \$3.9 million and \$4.2 million for the years ended December 31, 2018 and 2017.

Karuna Pharmaceuticals, Inc. 2009 Stock Incentive Plan

In 2009, the Board of Directors for Karuna Pharmaceuticals, Inc. approved the 2009 Stock Incentive Plan (the “Karuna 2009 Plan”). It allowed for the issuance of 1,000,000 share-based compensation awards through stock options, restricted stock units and other stock-based awards under the Karuna 2009 Plan to employees, officers, directors, consultants and advisors of Karuna. At March 15, 2019, 106,865 shares remained available for issuance under the Karuna 2009 Plan.

The options granted under the Karuna 2009 Plan are equity settled and expire 10 years from the grant date. Typically, the awards vest in four years but vesting conditions can vary based on the discretion of Karuna’s Board of Directors.

Options granted under the Karuna 2009 Plan are exercisable at a price per share not less than the fair market value of the underlying ordinary shares on the date of grant. The estimated fair value of options, including the effect of estimated forfeitures, is recognized over the options’ vesting period.

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The fair value of the stock option grants has been estimated at the date of grant using the Black-Scholes option pricing model with the following weighted average assumptions:

<u>Assumption/Input</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
Expected award life (in years)	—	5.67	6.07
Expected award price volatility	— %	49.66%	50.28%
Risk free interest rate	— %	2.86%	1.95%
Expected dividend yield	—	—	—
Grant date fair value	\$—	\$ 1.69	\$ 3.51
Share price at grant date	\$—	\$ 9.40	\$ 7.08

Karuna incurred share-based compensation expense of \$1.2 million for the period prior to deconsolidation ended March 15, 2019 and \$1.9 million and \$0.4 million for the years ended December 31, 2018 and 2017.

Other Plans

The stock compensation expense under plans at other subsidiaries of the Group not including Gelesis, Vedanta and Karuna was \$0.01 million, \$0.8 million and \$1.0 million for the years ended December 31, 2019, 2018 and 2017, respectively. The negative expense incurred during the year ended December 31, 2019 was largely attributable to Commense forfeitures.

9. Finance Cost, net

The following table shows the breakdown of finance income and costs:

<u>For the year ended December 31,</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
	<u>\$000s</u>	<u>\$000s</u>	<u>\$000s</u>
Finance income			
Interest from financial assets not at fair value through profit or loss	4,362	3,358	1,750
Total finance income	4,362	3,358	1,750
Finance costs			
Contractual interest expense on convertible notes	(149)	(388)	(400)
Interest expense on other borrowings	—	(4)	(4)
Non cash interest expense on convertible notes	—	—	(300)
Interest Expense	(2,495)	—	—
Gain on forgiveness of debt	—	289	—
Loss on extinguishment of derivatives	—	—	(18)
Gain/(loss) on foreign currency exchange	68	137	169
Total finance income/(costs)—contractual	(2,576)	34	(553)
Gain/(loss) from change in fair value of warrant liability	(11,890)	82	1,847
Gain/(loss) from change in fair value of preferred shares and convertible debt	(34,585)	22,549	(73,582)
Total finance income/(costs)—fair value accounting	(46,475)	22,631	(71,735)
Total finance income/(costs)—subsidiary preferred shares	(1,458)	(106)	(9,509)
Total finance income/(costs)	(47,933)	22,525	(81,797)
Finance income/(costs), net	(46,147)	25,917	(80,047)

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10. Earnings/(Loss) per Share

The basic and diluted loss per share has been calculated by dividing the income/(loss) for the period attributable to ordinary shareholders by the weighted average number of ordinary shares outstanding during the years ended December 31, 2019, 2018 and 2017, respectively.

Earnings/(Loss) Attributable to Owners of the Company:

	2019		2018		2017	
	Basic \$000s	Diluted \$000s	Basic \$000s	Diluted \$000s	Basic \$000s	Diluted \$000s
Income/(loss) for the year, attributable to the owners of the Company	421,144	421,144	(43,654)	(43,654)	26,472	26,472
Income/(loss) attributable to ordinary shareholders	421,144	421,144	(43,654)	(43,654)	26,472	26,472

Weighted-Average Number of Ordinary Shares:

	2019		2018		2017	
	Basic	Diluted	Basic	Diluted	Basic	Diluted
Issued ordinary shares at January 1,	282,493,867	282,493,867	236,897,579	236,897,579	232,712,542	232,712,542
Effect of shares issued	932,600	932,600	36,950,688	36,950,688	2,819,846	2,819,846
Effect of dilutive shares	—	8,355,866	—	—	—	3,388,920
Weighted average number of ordinary shareholders at December 31,	283,426,467	291,782,333	273,848,267	273,848,267	235,532,388	238,921,308

Earnings/(Loss) per Share:

	2019		2018		2017	
	Basic \$	Diluted \$	Basic \$	Diluted \$	Basic \$	Diluted \$
Basic and diluted earnings/(loss) per share	1.49	1.44	(0.16)	(0.16)	0.11	0.11

11. Property and Equipment

Cost	Laboratory and Manufacturing Equipment \$000s	Furniture and Fixtures \$000s	Computer Equipment and Software \$000s	Leasehold Improvements \$000s	Construction in process \$000s	Total \$000s
Balance as of January 1, 2018	6,082	469	1,214	2,899	74	10,738
Additions, net of transfers	1,586	27	477	2,070	171	4,331
Disposals	(261)	(8)	(260)	(27)	—	(556)
Exchange differences	(101)	—	—	(18)	(6)	(125)
Balance as of December 31, 2018	7,306	488	1,431	4,924	239	14,388
Additions, net of transfers	3,374	1,126	175	13,494	4,649	22,818
Disposals	(183)	(168)	(9)	(45)	—	(405)
Deconsolidation of subsidiaries	(3,076)	—	(137)	(754)	(4,190)	(8,157)
Reclassifications	(25)	6	48	36	(76)	(11)
Exchange differences	(11)	—	—	1	24	14
Balance as of December 31, 2019	7,385	1,452	1,508	17,656	646	28,647

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Accumulated depreciation and impairment loss	Laboratory and Manufacturing Equipment \$000s	Furniture and Fixtures \$000s	Computer Equipment and Software \$000s	Leasehold Improvements \$000s	Construction in process \$000s	Total \$000s
Balance as of January 1, 2018	(2,360)	(175)	(534)	(807)	—	(3,876)
Depreciation	(1,032)	(60)	(296)	(1,088)	—	(2,476)
Disposals	114	2	74	20	—	210
Exchange differences	56	—	—	21	—	77
Balance as of December 31, 2018	(3,222)	(233)	(756)	(1,854)	—	(6,065)
Depreciation	(1,328)	(144)	(312)	(1,448)	—	(3,232)
Disposals	102	138	5	20	—	265
Deconsolidation of subsidiaries	1,457	—	53	319	—	1,829
Reclassifications	15	—	(20)	6	—	1
Exchange differences	8	—	—	2	—	10
Balance as of December 31, 2019	(2,968)	(239)	(1,030)	(2,955)	—	(7,192)

Property and Equipment, net	Laboratory and Manufacturing Equipment \$000s	Furniture and Fixtures \$000s	Computer Equipment and Software \$000s	Leasehold Improvements \$000s	Construction in process \$000s	Total \$000s
Balance as of December 31, 2018	4,084	255	675	3,070	239	8,323
Balance as of December 31, 2019	4,417	1,213	478	14,701	646	21,455

Depreciation of property and equipment is included in the General and administrative expenses and Research and development expenses line items in the Consolidated Statements of Comprehensive Income/(Loss). The Company recorded depreciation expense of \$3.2 million, \$2.5 million and \$2.2 million for the years ended December 31, 2019, 2018 and 2017, respectively.

12. Intangible Assets

Intangible assets consist of licenses of intellectual property acquired by the Group through various agreements with third parties and are recorded at the value of cash and non-cash consideration transferred. Information regarding the cost and accumulated amortization of intangible assets is as follows:

Cost	Licenses \$000s
Balance as of January 1, 2018	5,018
Additions	125
Deconsolidation of subsidiary	(76)
Balance as of December 31, 2018	5,067
Additions	400
Deconsolidation of subsidiaries	(4,842)
Balance as of December 31, 2019	625

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<u>Accumulated amortization</u>	<u>Licenses \$000s</u>
Balance as of January 1, 2018	(1,709)
Amortization	(302)
Deconsolidation of subsidiary	24
Balance as of December 31, 2018	(1,987)
Amortization	(117)
Deconsolidation of subsidiary	2,104
Balance as of December 31, 2019	—

<u>Intangible assets, net</u>	<u>Licenses \$000s</u>
Balance as of December 31, 2018	3,080
Balance as of December 31, 2019	625

These intangible asset licenses represent in-process-research-and-development assets since they are still being developed and are not ready for their intended use. As such, these assets are not yet amortized but tested for impairment annually. The Company tested such assets for impairment as of balance sheet date and concluded that none were impaired. During the year ended December 31, 2019, Vor, Karuna and Gelesis were deconsolidated and as such \$2.7 million in net assets were derecognized.

Amortization expense is included in the Research and development expenses line item in the accompanying Consolidated Statements of Comprehensive Income/(Loss). Amortization expense, recorded using the straight-line method, was approximately \$0.1 million, \$0.3 million and \$0.5 million for the years ended December 31, 2019, 2018 and 2017 respectively.

13. Other Financial Assets

Other financial assets consist of restricted cash held, which represents amounts that are reserved as collateral against letters of credit with a bank that are issued for the benefit of a landlord in lieu of a security deposit for office space leased by the Group. Information regarding restricted cash was as follows:

<u>As of December 31,</u>	<u>2019 \$000s</u>	<u>2018 \$000s</u>
Restricted cash	<u>2,124</u>	<u>2,199</u>
Total other financial assets	<u>2,124</u>	<u>2,199</u>

14. Equity

Total equity for PureTech as of December 31, 2019 and 2018 was as follows:

<u>Equity</u>	<u>December 31, 2019 \$000s</u>	<u>December 31, 2018 \$000s</u>
Share capital, £0.01 par value, issued and paid 285,370,619 and 282,493,867 as of December 31, 2019 and 2018, respectively	5,408	5,375
Merger Reserve	138,506	138,506
Share premium	287,962	278,385
Translation reserve	—	10
Other reserves	(18,282)	20,923
Retained earnings/(accumulated deficit)	254,444	(167,692)
Equity attributable to owners of the Group	668,037	275,507
Non-controlling interests	(17,640)	(108,535)
Total equity	650,397	166,972

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Changes in share capital and share premium relate primarily to acquisition of Ariya non-controlling interest and incentive options exercises during the period.

Shareholders are entitled to vote on all matters submitted to shareholders for a vote. Each ordinary share is entitled to one vote. Each ordinary share is entitled to receive dividends when and if declared by the Company's Directors. The Company has not declared any dividends in the past.

On June 18, 2015, the Company acquired the entire issued share capital of PureTech LLC in return for 159,648,387 Ordinary Shares. This was accounted for as a common control transaction at cost. It was deemed that the share capital was issued in line with movements in share capital as shown prior to the transaction taking place. In addition, the merger reserve records amounts previously recorded as share premium.

Other reserves comprise the cumulative credit to share-based payment reserves corresponding to share-based payment expenses recognized through Consolidated Statements of Comprehensive Income/(Loss).

15. Subsidiary Preferred Shares

IFRS 9 addresses the classification, measurement, and recognition of financial liabilities. Preferred shares issued by subsidiaries and affiliates often contain redemption and conversion features that are assessed under IFRS 9 in conjunction with the host preferred share instrument.

The subsidiary preferred shares are convertible into ordinary shares of the subsidiaries at the option of the holder and mandatorily convertible into ordinary shares upon a subsidiary listing in a public market at a price above that specified in the subsidiary's charter or upon the vote of the holders of subsidiary preferred shares specified in the charter. Under certain scenarios the number of ordinary shares receivable on conversion will change and therefore, a variable number of shares will be issued. Because the possible conversion of the preferred shares is outside of the control of the Group, these have been classified as liabilities on the balance sheet and subsequently remeasured at fair value through the profit and loss.

The preferred shares are entitled to vote with holders of common shares on an as converted basis.

The Group recognizes the preferred share balance upon the receipt of cash financing or upon the conversion of notes into preferred shares at the amount received or carrying balance of any notes and derivatives converted into preferred shares. Preferred shares are not allocated a proportion of the subsidiary losses.

The balance as of December 31, 2019 and 2018 represents the fair value of the instruments for all subsidiary preferred shares except for Tal, which represents the host instrument at amortized cost. The following summarizes the subsidiary preferred share balance:

<u>As of December 31,</u>	<u>2019</u>	<u>2018</u>
	<u>\$000s</u>	<u>\$000s</u>
Entrega	3,222	2,780
Follica	11,663	60
Gelesis	—	140,192
Karuna	—	32,342
Sonde	7,212	—
The Sync Project	—	109
Tal	—	113
Vedanta Biosciences	78,892	41,923
Total subsidiary preferred share balance	100,989	217,519

As of December 31, 2019, the total subsidiary preferred share balance decreased owing to the deconsolidation of Karuna and Gelesis.

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As is customary, in the event of any voluntary or involuntary liquidation, dissolution or winding up of a subsidiary, the holders of subsidiary preferred shares which are outstanding shall be entitled to be paid out of the assets of the subsidiary available for distribution to shareholders and before any payment shall be made to holders of ordinary shares. A merger, acquisition, sale of voting control or other transaction of a subsidiary in which the shareholders of the subsidiary do not own a majority of the outstanding shares of the surviving company shall be deemed to be a liquidation event. Additionally, a sale, lease, transfer or other disposition of all or substantially all of the assets of the subsidiary shall also be deemed a liquidation event.

As of December 31, 2019 and 2018, the minimum liquidation preference reflects the amounts that would be payable to the subsidiary preferred holders upon a liquidation event of the subsidiaries, which is as follows:

<u>As of December 31,</u>	<u>2019</u> <u>\$000s</u>	<u>2018</u> <u>\$000s</u>
Entrega	2,216	2,216
Follica	6,405	1,895
Gelesis	—	77,301
Karuna	—	24,343
Sonde	7,250	—
Sync	—	109
Tal	—	113
Vedanta Biosciences	77,161	41,923
Total minimum liquidation preference	93,032	147,900

As of December 31, 2018, Tal ceased operations and was in the process of liquidated. Therefore, the liquidation preference shown above equals the cash on hand, as this will be paid out to existing investors.

As of December 31, 2019, the minimum liquidation preference decreased owing to the deconsolidation of Karuna and Gelesis.

For the years ended December 31, 2019, 2018 and 2017, the Group recognized the following changes in the value of subsidiary preferred shares:

	<u>\$000s</u>
Balance as of January 1, 2018	215,635
Issuance of new preferred shares	54,537
Conversion of convertible notes	7,930
Decrease in value of preferred shares measured at fair value	(23,110)
Sale of The Sync Group	(1,062)
Deconsolidation of subsidiary	(36,517)
Accretion	106
Balance as of December 31, 2018 and January 1, 2019	217,519
Issuance of new preferred shares	51,048
Conversion of convertible notes	4,894
Increase in value of preferred shares measured at fair value	33,636
Finance costs	1,458
Deconsolidation of subsidiary	(207,346)
Other	(108)
Cash Distribution	(112)
Balance as of December 31, 2019	100,989

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2019

On March 15, 2019, Karuna was deconsolidated. As of deconsolidation, the fair value of Karuna's preferred share liability was \$31.7 million.

On April 4, 2019, Sonde Health issued and sold shares of Series A-2 preferred shares for aggregate proceeds of \$11.1 million, of which \$5.3 million was contributed by outside investors. Approximately \$5.8 million of outstanding principal and interest on convertible promissory notes issued by Sonde to PureTech converted into Series A-2 preferred shares in this financing in accordance with their terms. On August 29, 2019, Sonde sold an additional 1,052,632 shares of its Series A-2 preferred shares for aggregate proceeds of \$2.0 million. It has been determined that these shares are liability classified and contain a liability classified embedded derivative. This embedded derivative is a conversion feature which can result in settlement in a variable number of shares. The instrument is not bifurcated and is measured in whole at fair value through the profit and loss.

In April 2019, Gelesis completed further closings of its Series 2 Growth financing issuing 799,894 shares for proceeds of \$10.2 million, of which \$8.6 million was contributed by outside investors and \$1.6 million was contributed by PureTech.

In March and May 2019, Vedanta completed a second and third closing of its Series C preferred shares financing for aggregate proceeds of \$18.7 million. PureTech Health did not participate in either closing. It has been determined that these shares are liability classified and contain a liability classified embedded derivative. This embedded derivative is a conversion feature which can result in settlement in a variable number of shares. The instrument is not bifurcated and is measured in whole at fair value through the profit and loss.

On July 1, 2019, Gelesis was deconsolidated. As of deconsolidation, the fair value of Gelesis' preferred share liability was \$175.6 million.

On July 19, 2019, all of the outstanding notes, plus accrued interest, issued by Follica converted into 17,639,204 shares of Series A-3 Preferred Shares and 14,200,044 shares of common share pursuant to a Series A-3 Note Conversion Agreement between Follica and the noteholders. Third parties held 2,422,990 A-3 preferred shares following the conversion. It has been determined that these shares are liability classified and contain a liability classified embedded derivative. This embedded derivative is a conversion feature which can result in settlement in a variable number of shares. The instrument is not bifurcated and is measured in whole at fair value through the profit and loss.

In September 2019, Vedanta received \$16.7 million from outside investors through the issuance of its Series C-2 preferred shares in two separate closings. The issuances provided for the purchase of 711,772 Series C-2 shares at a purchase price of \$23.28. PureTech Health did not participate in either closing. It has been determined that these shares are liability classified and contain a liability classified embedded derivative. This embedded derivative is a conversion feature which can result in settlement in a variable number of shares. The instrument is not bifurcated and is measured in whole at fair value through the profit and loss.

2018

In 2018, Gelesis received \$16.8 million from outside investors through the issuance of its Series 2 Growth preferred shares as part of a \$30.0 million financing with multiple closings. It has been determined that these shares are liability classified and contain a liability classified embedded derivative. This embedded derivative is a conversion feature which can result in settlement in a variable number of shares. The instrument is not bifurcated and is measured in whole at fair value through the profit and loss.

In May 2018, Akili issued Series C preferred shares for aggregate proceeds of \$55.0 million; PureTech Health did not participate in this financing. Upon closing of Akili's Series C financing, the subsidiary was deconsolidated by PureTech Health (please refer to Note 3).

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In August 2018, Karuna issued Series A preferred shares for aggregate proceeds of \$42.1 million, of which \$23.9 million came from outside investors. In conjunction with the August 2018 issuance of Series A preferred shares, \$26.1 million of outstanding principal and accrued interest on notes payable converted, of which \$7.9 million related to outside investors. It has been determined that these shares are liability classified and contain a liability classified embedded derivative. The instrument is not bifurcated and is measured in whole at fair value through the profit and loss.

On December 21, 2018, Vedanta issued Series C preferred shares for aggregate proceeds of \$26.7 million, of which \$21.7 million came from outside investors. It has been determined that these shares are liability classified and contain a liability classified embedded derivative. The instrument is not bifurcated and is measured in whole at fair value through the profit and loss.

16. Financial Instruments

The Group's financial instruments consist of financial liabilities, including preferred shares, convertible notes, warrants and loans payable, as well as financial assets classified as assets held at fair value.

Subsidiary Preferred Shares Liability and Subsidiary Convertible Notes

The following table summarizes the changes in the Group's subsidiary preferred shares and convertible note liabilities measured at fair value using significant unobservable inputs (Level 3):

	Subsidiary Preferred Shares \$000s	Subsidiary Convertible Notes \$000s
Balance at January 1, 2018	215,635	11,343
Value at issuance	54,537	5,824
Conversion	7,930	(7,581)
Deconsolidation of preferred shares	(36,517)	—
Change in fair value	(24,066)	(128)
Balance at December 31, 2018 and January 1, 2019	217,519	9,458
Value at issuance	51,048	1,607
Conversion to preferred	4,894	(4,894)
Conversion to common	—	(2,418)
Deconsolidation	(207,346)	(5,017)
Change in fair value	33,636	1,389
Finance Costs	1,458	—
Other	(112)	—
Cash distribution	(108)	—
Balance at December 31, 2019	100,989	125

For financial instruments measured at fair value under IFRS 9 the change in the fair value of the entire instrument is reflected through profit and loss. The techniques used to determine fair value of the preferred shares and convertible notes included the market approach, the market backsolve approach and the discounted cash flow income approach. A market approach uses prices and other relevant information generated by recent market transactions involving identical or comparable assets or liabilities. The discounted cash flow income approach, which represents a Level 3 approach, relies upon unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of certain assets or liabilities. The market backsolve method is derived from the total equity that is implied by the most recent financing round in which the only truly observable value indicator is the financing round and the economic rights and the allocation inputs are implied by the terms of the financing, while volatility and term are Management inputs within the option pricing-method.

During the years ended December 31, 2019 and 2018, at each measurement date, the total fair value of preferred share, warrants and convertible note instruments, including embedded conversion rights that are not bifurcated,

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was determined using an OPM, PWERM or with or without framework which consisted of a three-step process detailed below.

First, the total business enterprise value of each business within the Group was determined using a discounted cash flow income approach or market approach, or market backsolve approach through a recent arm’s length financing round.

Second, the principal methods that the Group applies for the allocation of value are the Option Pricing Method (“OPM”) and the Probability-Weighted Expected Return Method (“PWERM”).

- The OPM treats outstanding securities as call options on the enterprise’s value or overall equity value. The value of a security is based on the optionality over and above the value of securities that are senior in the capital structure (e.g. preferred shares), which takes into consideration the dilutive effects of subordinate securities. In the OPM, the exercise price is based on a comparison with the overall equity value rather than per-share value.
- The PWERM estimates the value of equity securities based on an analysis of various discrete future outcomes, such as an IPO, merger or sale, dissolution, or continued operation as a private or public enterprise until a later exit date. The equity value today is based on the probability-weighted present values of expected future investment returns, considering each of the possible outcomes available to the enterprise, as well as the rights of each security class.

Third, the fair value of the preferred shares was determined as the calculated business enterprise value allocated to the outstanding preferred share classes treated as call options within the OPM or the value of preferred shares on a converted common share basis within the PWERM. For convertible notes, the fair value of the instrument, including the embedded conversion right which was not bifurcated, was also calculated using a with or without method.

Quantitative information about the significant unobservable inputs used in the fair value measurement of the Group’s embedded derivative liability related to the subsidiary preferred shares designated as Level 3 is as follows:

Option Pricing Model Inputs for Preferred Shares and Convertible Notes Liabilities under IFRS 9 at December 31, 2019:

Measurement Date	Range of Values			Probability of IPO/M&A
	Expiration Date	Volatility	Risk Free Rate	
12/31/2017	1.0 – 3.5 years	50.00% – 80.00%	1.70% – 2.04%	— %
12/31/2018	0.3 – 2.5 years	45.00% – 85.00%	2.47% – 2.60%	— %
12/31/2019	0.7 – 2.0 years	30.00% – 85.00%	1.58% – 1.60%	65%/35%

Probability Weighted Expected Return Method Inputs for Preferred Shares and Convertible Notes Liabilities under IFRS 9 at December 31, 2019:

Measurement Date	Range of Values	
	Time to Anticipated Exit Event	Probability of IPO/M&A/Dissolution Sale
12/31/2017	0.37 – 1.83 years	50.0%/50.0%/0.0%
12/31/2018	0.75 – 1.00 years	50.0%/50.0%/0.0%
12/31/2019	—	— %

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Quantitative information about the significant unobservable inputs used in the fair value measurement of the Group's convertible note liabilities designated as Level 3 for the year ended December 31, 2018 is as follows:

Significant Unobservable Inputs	Range of Values	
	At Issuance	2018
Time to next qualified equity financing	1.00 – 2.03 years	0.33 – 1.50 years
Implied discount rate	11.3% – 2,459.0%	10.8% – 44.9%
Probability of a qualified financing or change of control	0.0% – 100.0%	95.0% – 100.0%

Valuation policies and procedures are regularly monitored by the Company's finance group. Fair value measurements, including those categorized within Level 3, are prepared and reviewed on their issuance date and then on an annual basis and any third-party valuations are reviewed for reasonableness and compliance with the fair value measurements guidance under IFRS.

Subsidiary Preferred Shares Sensitivity

The following summarizes the sensitivity from the assumptions made by the Company in respect to the unobservable inputs used in the fair value measurement of the Group's preferred share liabilities, which do not qualify for bifurcation and are recorded at fair value (Please refer to Note 15).

Input	Subsidiary Preferred Share Liability	
	Sensitivity Range	Financial Liability Increase/ (Decrease) \$000s
As of December 31, Enterprise Value	-2%	(1,785)
	2%	1,784
Volatility	-10%	410
	10%	(459)
Time to Liquidity	-6 Months	565
	+6 Months	(501)
Risk-free Rate ¹	-0.08%/-0.03%	565
	+0.02%/+0.05%	(501)
IPO/M&A Event Probability	-10%	1,167
	+10%	(1,162)

1. Risk-free rate is a function of the time to liquidity input assumption.

The change in fair value of preferred shares are recorded in Finance cost, net in the Consolidated Statements of Comprehensive Income/(Loss).

Financial Assets Held at Fair Value

resTORbio Valuation

ResTORbio (NASDAQ: TORC) is a listed entity on an active exchange and as such the fair value as of December 31, 2019 was calculated utilizing the quoted common share price. Please refer to Note 5 for further details.

Karuna Valuation

Karuna (NASDAQ: KRTX) is a listed entity on an active exchange and as such the fair value as of December 31, 2019 was calculated utilizing the quoted common share price. Please refer to Note 5 for further details.

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Akili, Gelesis and Vor Valuation

In accordance with IFRS 9, the Company accounts for its preferred share investments in Akili, Gelesis and Vor as financial assets held at fair value through the profit and loss. During the year ended December 31, 2019, the Company recorded its investment at fair value and recognized a gain of \$48.8 million that was recorded to the Consolidated Statements of Comprehensive Income/(Loss) on the line item Gain/(loss) on investments held at fair value.

The following table summarizes the changes in the Group's investments held at fair value using significant unobservable inputs (Level 3):

	<u>\$'000s</u>
Balance at January 1, 2018	1,449
Deconsolidation of Akili	70,748
Gain/ (Loss) on changes in fair value	12,966
Issuance of note receivable	—
Balance at December 31, 2018 and January 1, 2019	85,163
Deconsolidation of Vor	12,028
Deconsolidation of Karuna	77,373
Deconsolidation of Gelesis	49,170
Reclass of Karuna to Associate	(118,006)
Gain/(Loss) on changes in fair value	48,867
Issuance of note receivable	6,480
Conversion of note receivable	(6,630)
Balance at December 31, 2019	154,445

Option Pricing Model and Probability Weighted Expected Return Method Inputs for Investments Held at Fair Value at December 31, 2019 and 2018:

<u>PWERM (IPO Scenario) Measurement Date</u>	<u>Range of Values</u>	
	<u>Time to Anticipated Exit Event</u>	<u>Probability of IPO</u>
12/31/2018	0.50 years	50.0%
12/31/2019	1.1 — 3.0 years	55.0% — 75.0%

<u>OPM (Long-term Exit Scenario) Measurement Date</u>	<u>Range of Values</u>		
	<u>Expiration Date</u>	<u>Volatility</u>	<u>Risk Free Rate</u>
12/31/2018	1.25 years	75.0%	2.56%
12/31/2019	1.13 — 3 years	56.0% — 80.0%	1.59% — 1.62%

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The following summarizes the sensitivity from the assumptions made by the Company in respect to the unobservable inputs used in the fair value measurement of the Group's investments held at fair value (please refer to Note 5):

Input	Investments Held at Fair Value	
	Sensitivity Range	Financial Asset Increase/ (Decrease) \$000s
As of December 31,		
Enterprise Value	-2%	(2,947)
	2%	2,947
Volatility	-10%	131
	10%	(143)
Time to Liquidity	-6 Months	20,699
	+6 Months	(17,711)
Risk-free Rate ¹	-0.08%/-0.02%	20,699
	+0.10%/+0.16%	(17,711)

1. Risk-free rate is a function of the time to liquidity input assumption.

Warrants

Warrants issued by the Group are classified as liabilities, as they will be settled in a variable number of shares and are not fixed-for-fixed. The following table summarizes the changes in the Group's subsidiary warrant liabilities measured at fair value using significant unobservable inputs (Level 3):

	Subsidiary Warrant Liability \$000s
Balance at January 1, 2018	13,095
Change in fair value	(83)
Balance at December 31, 2018	13,012
Warrant Issuance	4,706
Gelesis Deconsolidation	(21,611)
Change in fair value	11,890
Balance at December 31, 2019	7,997

In June 2019, Gelesis amended their existing license and patent agreement with One S.r.l. As a result of the amendment Gelesis issued One S.r.l. a warrant equal to 2.7 percent of as converted shares following the next financing round. The fair value of the warrant was \$4.7 million at issuance. On July 1, 2019, Gelesis deconsolidated and warrant liability of \$21.6 million relating to Series A-1, A-3, A-4 and One S.r.l. warrants was derecognized.

In connection with various amendments to its 2010 Loan and Security Agreement, Follica issued Series A-1 preferred share warrants at various dates in 2013 and 2014. Each of the warrants has an exercise price of \$0.1425 and a contractual term of 10 years from the date of issuance. In 2017, in conjunction with the issuance of convertible notes, the exercise price of the warrants was adjusted to \$0.07 per share. The change in the fair value of the subsidiary warrants was recorded in finance costs, net in the Consolidated Statements of Comprehensive Income/(Loss). The \$8.0 million warrant liability at December 31, 2019 is attributable to the outstanding Follica preferred share warrants.

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The following weighted average assumptions were utilized by the Company with respect to determining the fair value of the Follica warrants at December 31, 2019:

<u>Assumption/Input</u>	<u>Series A-1 Warrants</u>
Expected term	3.66
Expected volatility	40.6%
Risk free interest rate	1.6%
Expected dividend yield	— %
Estimated fair value of the convertible preferred shares	\$ 2.93
Exercise price of the warrants	\$ 0.07

The following summarizes the sensitivity from the assumptions made by the Company in respect to the unobservable inputs used in the fair value measurement of the Group's warrant liabilities as of December 31, 2019:

Input	<u>Warrant Liability</u>	
	<u>Sensitivity Range</u>	<u>Financial Liability Increase/ (Decrease) \$000s</u>
As of December 31, Enterprise Value	-2%	(128)
	2%	127

Fair Value Measurement and Classification

The fair value of financial instruments by category at December 31, 2019 and 2018:

	<u>Carrying Amount</u>		<u>2019</u>			
	<u>Financial Assets \$000s</u>	<u>Financial Liabilities \$000s</u>	<u>Fair Value</u>			<u>Total \$000s</u>
			<u>Level 1 \$000s</u>	<u>Level 2 \$000s</u>	<u>Level 3 \$000s</u>	
Financial assets:						
US treasuries ¹	30,088	—	30,088	—	—	30,088
Money Markets ²	106,586	—	106,586	—	—	106,586
Investments held at fair value	714,905	—	560,460	—	154,445	714,905
Trade and other receivables ³	1,977	—	—	1,977	—	1,977
Total financial assets	853,556	—	697,134	1,977	154,445	853,556
Financial liabilities:						
Subsidiary warrant liability	—	7,997	—	—	7,997	7,997
Subsidiary preferred shares	—	100,989	—	—	100,989	100,989
Subsidiary notes payable	—	1,455	—	1,455	—	1,455
Total financial liabilities	—	110,441	—	1,455	108,986	110,441

- (1) Issued by governments and government agencies, as applicable, all of which are investment grade.
- (2) Issued by a diverse group of corporations, largely consisting of financial institutions, virtually all of which are investment grade.
- (3) Outstanding receivables are owed primarily by corporations and government agencies, virtually all of which are investment grade.

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	Carrying Amount		2018			Total
			Fair Value			
	Financial Assets \$000s	Financial Liabilities \$000s	Level 1 \$000s	Level 2 \$000s	Level 3 \$000s	\$000s
Financial assets:						
US treasuries ¹	133,828	—	133,828	—	—	133,828
Certificates of deposit ²	2,199	—	—	2,199	—	2,199
Other deposits ²	100	—	—	100	—	100
Investments held at fair value	169,755	—	84,592	—	85,163	169,755
Loans and receivables:						
Trade and other receivables ³	1,328	—	—	1,328	—	1,328
Total financial assets	307,210	—	218,420	3,627	85,163	307,210
Financial liabilities:						
Subsidiary warrant liability	—	13,012	—	—	13,012	13,012
Subsidiary preferred shares	—	217,519	—	—	217,519	217,519
Subsidiary notes payable	—	12,010	—	12,010	—	12,010
Total financial liabilities	—	242,541	—	12,010	230,531	242,541

- (1) Issued by governments and government agencies, as applicable, all of which are investment grade.
(2) Issued by a diverse group of corporations, largely consisting of financial institutions, virtually all of which are investment grade.
(3) Outstanding receivables are owed primarily by corporations and government agencies, virtually all of which are investment grade.

17. Subsidiary Notes Payable

The subsidiary notes payable are comprised of loans and convertible notes. During the years ended December 31, 2019 and 2018, the financial instruments for Knode and Appeering did not contain embedded derivatives and therefore these instruments continue to be held at amortised cost. The notes payable consist of the following:

As of December 31,	2019 \$000s	2018 \$000s
Loans	1,330	2,552
Convertible notes	125	9,458
Total subsidiary notes payable	1,455	12,010

Loans

In October 2010, Follica entered into a loan and security agreement with Lighthouse Capital Partners VI, L.P. The loans are secured by Follica's assets, including Follica's intellectual property. The outstanding loan balance totaled approximately \$1.3 million as of each of December 31, 2019 and 2018.

In May 2014, Gelesis entered into a grant and loan agreement with an Italian economic development agency. Borrowings under the loan totaled €1.1 million as of December 31, 2018 (approximately \$1.3 million). Gelesis was required to make interest payments only in fiscal years 2014 and 2015, with principal and interest payments from January 2017 through January 2024. As of Gelesis' deconsolidation, \$0.9 million in outstanding principal and interest remained and the outstanding balance was derecognized.

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Convertible Notes

Convertible Notes outstanding were as follows:

	Karuna \$000s	Follica \$000s	Knode \$000s	Appeering \$000s	Total \$000s
January 1, 2018	5,812	5,406	50	75	11,343
Gross principal	4,700	1,124	—	—	5,824
Change in fair value	(93)	(35)	—	—	(128)
Conversion	(7,581)	—	—	—	(7,581)
December 31, 2018 and January 1, 2019	2,838	6,495	50	75	9,458
Gross principal	1,607	—	—	—	1,607
Change in fair value	572	817	—	—	1,389
Conversion to preferred	—	(4,894)	—	—	(4,894)
Conversion to common	—	(2,418)	—	—	(2,418)
Deconsolidation	(5,017)	—	—	—	(5,017)
December 31, 2019	—	—	50	75	125

Certain of the Group's subsidiaries have issued convertible promissory notes ("Notes") to fund their operations with an expectation of an eventual share-based award settlement of the Notes.

Substantially all Notes become due and payable on or after either December 31 of the year of issuance or on the thirtieth day following a demand by the majority of Note holders and bear interest at a rate of either 8.0 percent (or 12.0 percent upon an Event of Default) or 10.0 percent (or 15.0 percent upon an Event of Default). Interest is calculated based on actual days elapsed for a 360-day calendar year. Generally, the Notes cannot be prepaid without approval from the holders of a majority of the outstanding principal of a series of Notes. During the years ended December 31, 2019 and 2018, the Notes were assessed under IFRS 9 and the entire financial instruments are elected to be accounted for as FVTPL.

The Notes constitute complex hybrid instruments, which contain equity conversion features where holders may convert, generally at a discount, the outstanding principal and accrued interest into shares of the subsidiary before maturity and redemption options upon a change of control of the respective subsidiary.

The three key features are described below:

- Automatic conversion feature—upon a Qualified Financing, as such term is defined in the applicable Note, the unpaid principal and interest amounts are automatically converted into shares of the subsidiary issued in the Qualifying Financing at a conversion price equal to the price at which shares are sold in such Qualified Financing, less a discount. The discounts range from 5.0 percent to 25.0 percent and some require the issuance of an equal number of ordinary shares.
- Optional conversion feature—upon a Non-Qualified Financing, holders may convert the outstanding principal balance and unpaid interest to shares issued in the Non-Qualifying Financing at a conversion price equal to the price shares are sold in such Non-Qualified Financing, less a discount. The discounts range from 5.0 percent to 25.0 percent and some require the issuance of an equal number of ordinary shares.
- Change of control features—The Notes also generally contain a put option such that, in the event of a Change of Control transaction of the respective subsidiary prior to conversion or repayment of the Notes, the holders will be paid an amount equal to two or three times the outstanding principal balance plus any accrued and unpaid interest, in cash, on the date of the Change of Control.

On March 15, 2019, Karuna was deconsolidated in conjunction with the closing of a Series B Preferred Stock financing and the outstanding convertible note liability of \$5.0 million was derecognized.

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In May 2017 and September 2017, Follica received \$0.5 million and \$0.6 million, respectively, from an existing third-party investor through the issuance of convertible notes. The notes bear interest at an annual rate of 10.0 percent, mature 30 days after demand by the holder, are convertible into equity upon a qualifying financing event, and require payment of at least five times the outstanding principal and accrued interest upon a change of control transaction.

On July 19, 2019, all of the outstanding notes, plus accrued interest, issued by Follica converted into 17,639,204 shares of Series A-3 Preferred Stock and 14,200,044 shares of common shares pursuant to a Series A-3 Note Conversion Agreement between Follica and the noteholders. Third parties held 2,422,990 A-3 preferred shares and 1,981,944 common shares following the conversion. The preferred shares are classified as financial liabilities at fair value through the profit and loss. The common shares are accounted for as Non-controlling interests.

18. Non-Controlling Interest

During 2019, the Company deconsolidated three of its subsidiaries which resulted in a change to the composition of its reportable segments. As such, the Company has updated the following disclosures. Please refer to Note 4 “Segment Information” for further details regarding reportable segments.

The following table summarizes the changes in the equity classified non-controlling ownership interest in subsidiaries by reportable segment:

	Internal \$000s	Controlled Founded Entities \$000s	Non- Controlled Founded Entities \$000s	Parent Company & Other \$000s	Total \$000s
Balance at January 1, 2018*	(1,484)	(18,869)	(125,758)	525	(145,586)
Share of comprehensive loss*	(7,315)	(10,710)	(8,980)	—	(27,005)
Deconsolidation of subsidiary*	—	—	55,168	—	55,168
Equity settled share-based payments*	—	2,476	6,345	67	8,888
Balance as of December 31, 2018 and January 1, 2019*	(8,799)	(27,103)	(73,225)	592	(108,535)
Share of comprehensive loss	(15,264)	(15,862)	(23,953)	—	(55,079)
Deconsolidation of subsidiaries	—	—	97,178	—	97,178
Subsidiary note conversion and changes in NCI ownership interest	—	23,049	—	—	23,049
Equity settled share-based payments	—	1,683	—	—	1,683
Purchase of minority interest	24,039	—	—	—	24,039
Other	24	—	—	1	25
Balance as of December 31, 2019	—	(18,233)	—	593	(17,640)

* During the year ended December 31, 2019, the Company deconsolidated three of its subsidiaries which resulted in a change to the composition of its reportable segments. Consequently, the Company has revised the 2018 financial information to conform to the presentation as of and for the period ending December 31, 2019.

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The following tables summarize the financial information related to the Group's subsidiaries with material non-controlling interests, aggregated for interests in similar entities, and before intra group eliminations.

	2019		
	Internal \$000s	Controlled Founded Entities \$000s	Non- Controlled Founded Entities \$000s
<i>For the year ended December 31,</i>			
Statement of Comprehensive Loss			
Total revenue	6,078	1,968	—
Income/(loss) for the year	(24,289)	(26,250)	(47,905)
Other comprehensive income/(loss)	—	—	(10)
Total comprehensive income/(loss) for the year	(24,289)	(26,250)	(47,915)
Statement of Financial Position			
Total assets	17,614	5,290	—
Total liabilities	11,510	50,554	—
Net assets/(liabilities)	6,104	(45,264)	—
	2018		
	Internal \$000s	Controlled Founded Entities \$000s	Non- Controlled Founded Entities \$000s ¹
<i>For the year ended December 31,</i>			
Statement of Comprehensive Loss			
Total revenue	2,195	18,504	20
Income/(loss) for the year	(8,454)	(26,206)	(41,239)
Other comprehensive income/(loss)	—	(214)	(214)
Total comprehensive income/(loss) for the year	(8,454)	(26,420)	(41,453)
Statement of Financial Position			
Total assets	2,984	15,603	35,934
Total liabilities	13,366	60,992	202,161
Net Liabilities	(10,382)	(45,389)	(166,227)

1. Non-Controlled Founded Entities non-controlling interest calculation does not include equity method accounting, fair value method accounting or the gain on the deconsolidation of subsidiary related to Vor, Karuna, Gelesis, resTORbio or Akili, which is recorded within PureTech Health, LLC. Please refer to Note 5.

	2017		
	Internal \$000s	Controlled Founded Entities \$000s	Non- Controlled Founded Entities \$000s ¹
<i>For the year ended December 31,</i>			
Statement of Comprehensive Loss			
Total revenue	—	1,880	630
Income/(loss) for the year	(1,939)	(44,843)	(132,382)
Other comprehensive income/(loss)	—	—	408
Total comprehensive income/(loss) for the year	(1,939)	(44,843)	(131,974)

1. Non-Controlled Founded Entities non-controlling interest calculation does not include equity method accounting, fair value method accounting or the gain on the deconsolidation of subsidiary related to resTORbio or Akili, which is recorded within PureTech Health, LLC. Please refer to Note 5.

On July 19, 2019 PureTech and a third party investor converted their convertible debt in Follica to Follica Preferred shares (presented as liabilities) and Follica common shares. The amount of convertible debt converted

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by the third party investor into Follica common shares amounted to \$2.4 million (see also Note 16). As a result of the conversion Follica NCI share (in Follica common stock) was reduced from 68% to 19.9%, which resulted in a reduction in the NCI share in Follica's shareholders' deficit of \$20.1 million. The excess of the change in the book value of NCI (\$20.1 million noted above) over the contribution made by NCI (\$2.4 million) amounted to \$17.8 million and was recorded as a loss directly in shareholders' equity.

During 2019 a subsidiary of the Company fully funded by the Company ceased its operations and became inactive. This resulted in a change in the NCI share in the subsidiary deficit. As a result the Company recorded a loss directly in equity of \$3.1 million.

On October 1, 2019, PureTech acquired the remaining 10.0 percent of minority non-controlling interests of PureTech LYT, Inc. (previously named Ariya Therapeutics, Inc.), increasing its ownership from 90 percent to 100 percent. In consideration for the acquisition of minority interests, PureTech issued 2,126,338 shares of common shares. The fair value of the shares issued in consideration for the minority non-controlling interest amounted to \$9.1 million. The carrying amount of the non-controlling interest at the acquisition was a \$24 million deficit and the excess of the consideration paid over the book value of the non-controlling interest of approximately \$33.1 million was recorded directly in shareholders' equity.

19. Trade and Other Payables

Information regarding Trade and other payables was as follows:

<u>As of December 31,</u>	<u>2019</u>	<u>2018</u>
	<u>\$000s</u>	<u>\$000s</u>
Trade payables	11,098	4,644
Accrued expenses	8,744	11,231
Total trade and other payables	19,842	15,875

20. Other Long-Term Liabilities

Information regarding Other long-term liabilities was as follows:

<u>As of December 31,</u>	<u>2019</u>	<u>2018</u>
	<u>\$000s</u>	<u>\$000s</u>
Deferred rent	—	1,283
Lease incentive obligation	—	357
Accrued professional fees	—	738
Other	—	138
Other long-term liabilities	—	2,516

Please refer to Note 3 for a discussion of deferred revenue balances as of December 31, 2019 and 2018.

21. Leases

On January 1, 2019 the Company adopted IFRS 16, which replaced IAS 17 for the annual period beginning on January 1, 2019. Further discussion around the adoption of IFRS 16 is included in Note 1.

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The activity related to the Group's right of use asset and lease liability for the year ended December 31, 2019 is as follows:

	Right of use asset, net \$000s
Balance at December 31, 2018	—
Adoption of IFRS 16	10,353
Balance at January 1, 2019	10,353
Additions	19,434
Subleases	(2,580)
Depreciation	(3,237)
Deconsolidated	(1,587)
Balance at December 31, 2019	22,383

	Total lease liability \$000s
Balance at December 31, 2018	—
Adoption of IFRS 16	10,995
Balance at January 1, 2019	10,995
Additions	30,305
Cash paid for rent	(4,173)
Interest expense	2,495
Deconsolidated	(1,779)
Balance at December 31, 2019	37,843

The following reconciles operating lease commitments disclosed as at December 31, 2018 to the lease liability recognized at January 1, 2019:

	2019 \$000s
Operating lease commitments disclosed as at December 31, 2018	11,443
Discounted using the lessee's incremental borrowing rate at the date of initial application	(448)
Lease liability recognized at January 1, 2019	10,995

The following details the short term and long-term portion of the lease liability as at December 31, 2019:

	Total lease liability \$000s
Short-term Portion of Lease Liability	2,929
Long-term Portion of Lease Liability	34,914
Total Lease Liability	37,843

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The following table details the future maturities of the lease liability, showing the undiscounted lease payments to be received after the reporting date:

	2019 \$000s
Less than one year	5,257
One to two years	5,409
Two to three years	5,603
Three to four years	6,071
Four to five years	6,247
More than five years	21,494
Total undiscounted lease maturities	50,080
Interest	12,237
Total lease liability	37,843

Additions in the period relate to three leases that were entered into by PureTech and its consolidated subsidiaries during the year ended December 31, 2019. Amounts were arrived at using the contractual minimal lease payments, present valued using the applicable incremental borrowing rate, which ranged from 5.49 percent to 6.58 percent. Rent expense related to short-term leases which are not accounted for under IFRS 16 was \$1.3 million for the year ended December 31, 2019.

During the year ended December 31, 2019, PureTech entered into a lease agreement for certain premises consisting of approximately 50,858 rentable square feet of space located at 6 Tide Street. The lease commenced on April 26, 2019 (“Commencement Date”) for an initial term consisting of ten years and three months and there is an option to extend for two consecutive periods of five years each. As of December 31, 2019, the Company has not determined whether it will exercise these extension options.

On June 26, 2019, PureTech executed a sublease agreement with Gelesis. The lease is for the approximately 9,446 rentable square feet located on the sixth floor of the Company’s former offices at the 501 Boylston Street building. The sublessee obtained possession of the premises on June 1, 2019 and the rent period term begins June 1, 2019 and expires on August 31, 2025. The sublease was determined to be a finance lease and was reclassified from the right of use asset to a lease receivable at inception of the sublease. As of December 31, 2019 the balances related to the sublease were as follows:

	Total lease receivable \$000s
Short-term Portion of Lease Receivable	350
Long-term Portion of Lease Receivable	2,082
Total Lease Liability	2,432

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The following table details the future maturities of the lease receivable, showing the undiscounted lease payments to be received after the reporting date:

	2019 \$000s
Less than one year	485
One to two years	494
Two to three years	504
Three to four years	513
Four to five years	523
More than five years	353
Total undiscounted lease receivable	2,872
Unearned Finance income	440
Net investment in the lease	2,432

On August 6, 2019, PureTech executed a sublease agreement with Dewpoint Therapeutics, Inc. (“Dewpoint”). The sublease is for approximately 11,852 rentable square feet located on the third floor of the 6 Tide Street building, where the Company’s offices are currently located. Dewpoint obtained possession of the premises on September 1, 2019 with a rent period term that begins on September 1, 2019 and expires on August 31, 2021. The sublease was determined to be an operating lease.

Rental income recognized by the Company during the year ended December 31, 2019 was \$0.36 million. The following table details the future payments under the sublease, showing the undiscounted lease payments to be received after the reporting date:

	2019 \$000s
Less than one year	1,083
One to two years	722
Total	1,805

Prior to the adoption of IFRS 16, minimum rental commitments under non-cancellable leases were payable as follows:

As of December 31,	2018 \$000s
Within one year	1,742
Between one and five years	9,349
More than five years	352
Total minimum lease payments	11,443

Some property leases contain extension options exercisable by the Company before the end of the non-cancellable contract period. The extension options held are exercisable only by the Company and not by the lessors. The Company assesses at lease commencement date whether it is reasonably certain to exercise the extension options. The Company reassesses whether it is reasonably certain to exercise the options if there is a significant event or significant changes in circumstances within its control. The Company has estimated that the potential future lease payments, should it exercise the extension option, would result in an increase in lease liability of \$18.7 million.

During the year ended December 31, 2019, the Group reassessed the anticipated term of its Tide Street lease due to uncertainty as to whether the two extension options provided for in the lease agreement will be exercised. It

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was determined that there was sufficient uncertainty as to whether these options would be utilized, resulting in the useful life of the lease being adjusted from 20 years to 10 years. This resulted in a decrease to the lease liability and right of use asset, as well as an increase to the minimum lease payments due within one year and between one and five years.

During the year ended December 31, 2018, the Group determined that there were certain tenant improvement allowances that were originally classified as a reduction to leasehold improvements rather than as a liability. The Company concluded that the impact of the change of a reclassification from property and equipment to other current and long-term liabilities was not material to the Consolidated Financial Statements presented in the Annual Report of December 31, 2018.

Total rent expense under these leases was approximately \$2.5 million and \$1.3 million during the years ended December 31, 2018 and 2017, respectively. Rent expense is included in the General and administrative expenses line item in the Consolidated Statements of Comprehensive Income/(Loss).

22. Capital and Financial Risk Management

The Company's financial strategy policy is to support its strategic priorities, maintain investor and creditor confidence and sustain future development of the business through an appropriate mix of debt and equity. Management monitors the level of capital deployed and available for deployment in subsidiary companies. The Directors seek to maintain a balance between the higher returns that might be possible with higher levels of deployed capital and the advantages and security afforded by a sound capital position.

The Group's Directors have overall responsibility for establishment and oversight of its risk management framework. The Group is exposed to certain risks through its normal course of operations. The Group's main objective in using financial instruments is to promote the development and commercialization of intellectual property through the raising and investing of funds for this purpose. The Group's policies in calculating the nature, amount and timing of investments are determined by planned future investment activity. Due to the nature of activities and with the aim to maintain the investors' funds as secure and protected, the Group's policy is to hold any excess funds in highly liquid and readily available financial instruments and maintain insignificant exposure to other financial risks.

Credit Risk

The Group has exposure to the following risks arising from financial instruments:

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations. Financial instruments that potentially subject the Group to concentrations of credit risk consist principally of cash and cash equivalents and trade and other receivables. The Group held the following balances:

<u>As of December 31,</u>	<u>2019</u>	<u>2018</u>
	<u>\$000s</u>	<u>\$000s</u>
Cash and cash equivalents	132,360	117,051
Short-term investments	30,088	133,828
Investments held at fair value	714,905	169,755
Trade and other receivables	1,977	1,328
Total	879,330	421,962

The Group invests its excess cash in US Treasury Bills, US debt obligations and money market accounts, which the Group believes are of high credit quality.

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The Group assesses the credit quality of customers on an ongoing basis, taking into account its financial position, past experience and other factors. The credit quality of financial assets that are neither past due nor impaired can be assessed by reference to credit ratings (if available) or to historical information about counterparty default rates.

The aging of trade and other receivables that were not impaired at December 31 is as follows:

<u>As of December 31,</u>	<u>2019</u>	<u>2018</u>
	<u>\$000s</u>	<u>\$000s</u>
Neither past due or impaired	<u>1,977</u>	<u>1,328</u>
Total	<u>1,977</u>	<u>1,328</u>

The Company is also potentially subject to concentrations of credit risk in its accounts receivable. Concentrations of credit risk with respect to receivables is owed to the limited number of companies comprising the Company's customer base. The Group's exposure to credit losses is low, however, owing largely to the credit quality of its larger collaborative partners such as Roche, Boehringer Ingelheim and Eli Lilly.

Liquidity Risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Group actively manages its risk of a funds shortage by closely monitoring the maturity of its financial assets and liabilities and projected cash flows from operations, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the Group's reputation. Due to the nature of these financial liabilities, the funds are available on demand to provide optimal financial flexibility.

The table below summarizes the maturity profile of the Group's financial liabilities, including subsidiary preferred shares that have customary liquidation preferences, as of December 31, 2019 and 2018 based on contractual undiscounted payments:

<u>As of December 31,</u>	<u>2019</u>				<u>Total</u>
	<u>Carrying Amount</u>	<u>Within Three Months</u>	<u>Three to Twelve Months</u>	<u>One to Five Years</u>	
	<u>\$000s</u>	<u>\$000s</u>	<u>\$000s</u>	<u>\$000s</u>	<u>\$000s</u>
Subsidiary notes payable	<u>1,455</u>	<u>1,455</u>	<u>—</u>	<u>—</u>	<u>1,455</u>
Trade and other payables	<u>19,842</u>	<u>19,842</u>	<u>—</u>	<u>—</u>	<u>19,842</u>
Warrants	<u>7,997</u>	<u>7,997</u>	<u>—</u>	<u>—</u>	<u>7,997</u>
Subsidiary preferred shares (Note 15)	<u>100,989</u>	<u>100,989</u>	<u>—</u>	<u>—</u>	<u>100,989</u>
Total	<u>130,283</u>	<u>130,283</u>	<u>—</u>	<u>—</u>	<u>130,283</u>

<u>As of December 31,</u>	<u>2018</u>				<u>Total</u>
	<u>Carrying Amount</u>	<u>Within Three Months</u>	<u>Three to Twelve Months</u>	<u>One to Five Years</u>	
	<u>\$000s</u>	<u>\$000s</u>	<u>\$000s</u>	<u>\$000s</u>	<u>\$000s</u>
Subsidiary notes payable	<u>12,010</u>	<u>12,010</u>	<u>—</u>	<u>—</u>	<u>12,010</u>
Trade and other payables	<u>15,875</u>	<u>15,875</u>	<u>—</u>	<u>—</u>	<u>15,875</u>
Warrants	<u>13,012</u>	<u>13,012</u>	<u>—</u>	<u>—</u>	<u>13,012</u>
Subsidiary preferred shares (Note 15)	<u>217,519</u>	<u>217,519</u>	<u>—</u>	<u>—</u>	<u>217,519</u>
Total	<u>258,416</u>	<u>258,416</u>	<u>—</u>	<u>—</u>	<u>258,416</u>

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In addition to the above financial liabilities, the Group is required to spend the following minimum amounts under intellectual property license agreements:

	2019 \$000s	2020 \$000s	2021 \$000s	2022 \$000s
Licenses	1,366	1,374	1,373	773
Total	<u>1,366</u>	<u>1,374</u>	<u>1,373</u>	<u>773</u>

Market Risk

Market risk is due to changes in market prices, such as foreign exchange rates, interest rates and equity prices that affect the Group's income or the value of its financial instrument holdings. The objective of the Group's market risk management is to manage and control market risk exposures within acceptable parameters, while optimizing its return. The Group maintains the exposure to market risk from such financial instruments to insignificant levels. The Group's exposure to changes in interest rates has been determined to be insignificant.

Controlled Founded Entity Investments

The Group maintains investments in certain Controlled Founded Entities. The Group's investments in Controlled Founded Entities are eliminated as intercompany transactions upon financial consolidation. The Group is however exposed to a preferred share liability owing to the terms of existing preferred shares and the ownership of Controlled Founded Entities preferred shares by third parties. The liability of preferred shares is maintained at fair value through the profit and loss. The Group's strong cash position, budgeting and forecasting processes, as well as decision making and risk mitigation framework enable the Group to robustly monitor and support the business activities of the Controlled Founded Entities to ensure no exposure to credit losses and ultimately dissolution or liquidation. Accordingly, the Group views exposure to 3rd party preferred share liability as low.

Non-Controlled Founded Entity Investments

The Group maintains certain investments in Non-Controlled Founded Entities which are deemed associates and accounted for under the equity method (please refer to Note 1). The Group's exposure to investments in associates is limited to the initial carrying amount upon recognition as an Associate. The Group is not exposed to further contractual obligations or contingent liabilities beyond the value of initial investment. As of December 31, 2019, Gelesis was the only associate. The initial carrying amount of the investment in Gelesis as an associate was \$16.4 million. Accordingly, the Group views the risk as high.

Equity Price Risk

We have an investment in common shares of Karuna and resTORbio, as described further in Note 5. As of December 31, 2019 the fair value of our investments in resTORbio and Karuna common shares was \$3.2 million and \$557.2 million, respectively. These investments are exposed to fluctuations in the market price of these common shares. The effect of a 10.0 percent adverse change in the market price of resTORbio and Karuna common shares as of December 31, 2019 would have been a loss of approximately \$0.3 million and \$55.7 million, respectively, recognized as a component of Other income (expense) in our Consolidated Statements of Comprehensive Income/(Loss).

Foreign Exchange Risk

With respect to Gelesis, prior to deconsolidation, certain grant revenues and the research and development costs associated with those grants are generated and incurred in Euros. As such, the Group's certain results of

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operations and cash flows will be subject to fluctuations due to change in foreign currency exchange rates. Foreign currency transaction exposure arising from external trade flows is generally not hedged.

Capital Risk Management

The Group is funded by equity and debt financing as well as grant and research collaboration income. Total capital is calculated as Total Equity as shown in the Consolidated Statements of Financial Position.

The Group's objectives when managing capital are to safeguard its ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital. To maintain or adjust the capital structure, the Group may issue new shares or incur new debt. The Group has some external debt and no material externally imposed capital requirements. The Group's share capital is clearly set out in Note 15.

As discussed in Note 15, certain of the Group's subsidiaries have issued preferred shares that include the right to receive a payment in the event of any voluntary or involuntary liquidation, dissolution or winding up of a subsidiary, which shall be paid out of the assets of the subsidiary available for distribution to shareholders and before any payment shall be made to holders of ordinary shares.

23. Commitments and Contingencies

Gelesis is a party to a patent license and assignment agreement whereby it will be required to pay approximately \$8.0 million upon the achievement of certain milestones, pay royalties on future sales and/or a percentage of sublicense income. Gelesis accrued \$6.6 million as potential expenses under the patent license and assignment agreement for the years ended December 31, 2018 and 2017. During the year ended December 31, 2019 Gelesis was deconsolidated. Therefore, there are no additional contingencies recorded related to Gelesis at December 31, 2019.

Other members of the Group are also parties to certain licensing agreements that require milestone payments and/or royalties on future sales. None of these payments have become due and the amounts of any future milestone or royalty payments cannot be reliably measured as of the date of the financial information.

24. Related Parties Transactions

Related Party Subleases

During 2019, PureTech executed sublease agreements with related parties Gelesis and Dewpoint Therapeutics. Please refer to Note 20 for further details regarding the sublease.

Key Management Personnel Compensation

Key management includes executive directors and members of the executive management team of the Group. The key management personnel compensation of the Group was as follows for the years ended December 31:

<u>As of December 31,</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
	<u>\$000s</u>	<u>\$000s</u>	<u>\$000s</u>
Short-term employee benefits	<u>5,543</u>	<u>3,998</u>	<u>3,514</u>
Share-based payments	<u>2,774</u>	<u>3,062</u>	<u>2,402</u>
Total	<u>8,317</u>	<u>7,060</u>	<u>5,916</u>

Wages and employee benefits include salaries, health care and other non-cash benefits. Share-based payments are generally subject to vesting terms over future periods.

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Convertible Notes Issued to Directors

Certain members of the Group have invested in convertible notes issued by the Group's subsidiaries. As of December 31, 2019, 2018 and 2017, the outstanding related party notes payable totaled \$84 thousand, \$79 thousand and \$74 thousand, respectively, including principal and interest.

The notes issued to related parties bear interest rates, maturity dates, discounts and other contractual terms that are the same as those issued to outside investors during the same issuances, as described in Note 17.

Directors' and Senior Managers' Shareholdings and Share Incentive Awards

The Directors and senior managers hold beneficial interests in shares in the following businesses and sourcing companies as at December 31, 2019:

Directors	Business Name (Share Class)	Number of shares held as of December 31, 2019	Number of options held as of December 31, 2019	Ownership Interest ¹
Ms Daphne Zohar ²	Gelesis (Common)	59,443	939,086	4.30%
Dame Marjorie Scardino	—		—	— %
Dr Bennett Shapiro	Akili (Series A-2 Preferred) ³	—	33,088	0.20%
	Gelesis (Common)	24,009	10,840	0.01%
	Gelesis (Series A-1 Preferred)	23,418	—	0.20%
	Vedanta Biosciences (Common)		25,000	0.22%
	Vedanta Biosciences (Series B Preferred)	11,202	—	0.10%
Dr Robert Langer	Entrega (Common)		332,500	4.09%
	Alivio (Common)		1,575,000	6.06%
Dr Raju Kucherlapati	Enlight (Class B Common)		30,000	3.00%
	Gelesis (Common)	—	20,000	0.10%
Dr John LaMattina ⁴	Akili (Series A-2 Preferred)		37,372	0.20%
	Gelesis (Common) ⁴		117,169	0.50%
	Gelesis (Common) ⁵		20,000	0.10%
	Gelesis (Series A-1 Preferred) ⁴		49,524	0.20%
	Vedanta Biosciences (Common)		25,000	0.22%
Mr Christopher Viehbacher	—		—	— %
Mr Stephen Muniz	Gelesis (Common) ⁵		20,000	0.10%
Senior Managers:				
Dr Eric Elenko	—	—	—	— %
Dr Joep Muijrs	—	—	—	— %
Dr Bharatt Chowrira	Karuna (Common) ⁵	10,000	—	0.04%
Dr Joseph Bolen	Vor (Common)	—	125,000	0.12%

- Ownership interests as of December 31, 2019 are calculated on a diluted basis, including issued and outstanding shares, warrants and options (and written commitments to issue options) but excluding unallocated shares authorized to be issued pursuant to equity incentive plans and any shares issuable upon conversion of outstanding convertible promissory notes.
- Common shares and options held by Yishai Zohar, who is the husband of Ms. Zohar. Ms. Zohar does not have any direct interest in the share capital of Gelesis. Ms Zohar recuses herself from any and all material decisions with regard to Gelesis.
- Shares held through Dr Bennett Shapiro and Ms Fredericka F. Shapiro, Joint Tenants with Right of Survivorship.

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4. Dr John and Ms Mary LaMattina hold 49,523 shares of common shares and 49,524 shares of Series A-1 preferred shares in Gelesis. Individually, Dr LaMattina holds 12,642 shares of Gelesis and convertible notes issued by Appeering in the aggregate principal amount of \$50,000.
5. Options to purchase the listed shares were granted in connection with the service on such founded entity's Board of Directors and any value realized therefrom shall be assigned to PureTech Health, LLC.

Directors and senior managers hold 29,939,913 ordinary shares and 10.5 percent voting rights of the Company as of December 31, 2019. This amount excludes options to purchase 2,909,344 ordinary shares. This amount also excludes 8,374,351 shares, which are issuable contingent to the terms of performance based RSU awards granted to certain senior managers covering the financial years 2019, 2018 and 2017. Such shares will be issued to such senior managers in future periods provided that performance conditions are met and certain of the shares will be withheld for payment of customary withholding taxes.

25. Taxation

Tax on the profit or loss for the year comprises current and deferred income tax. Tax is recognized in the Consolidated Statements or Comprehensive Income/(Loss) except to the extent that it relates to items recognized directly in equity.

For the years ended December 31, 2019, 2018 and 2017, the Group filed a consolidated US federal income tax return which included all subsidiaries in which the Company owned greater than 80% of the vote and value. For the years ended December 31, 2019, 2018 and 2017, the Group filed certain consolidated state income tax returns which included all subsidiaries in which the Company owned greater than 50% of the vote and value. The remaining subsidiaries file separate US tax returns.

Current income tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted or substantially enacted at the reporting date, and any adjustment to tax payable in respect of previous years.

Deferred tax is recognized due to temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax assets are recognized for unused tax losses, unused tax credits and deductible temporary differences to the extent that it is probable that future taxable profits will be available against which they can be used. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realized.

Deferred tax is measured at the tax rates that are expected to be applied to temporary differences when they reverse, using tax rates enacted or substantively enacted at the reporting date.

Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income tax assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities where there is an intention to settle the balances on a net basis.

Deferred taxes are recognized in Consolidated Statements of Comprehensive Income/(Loss) except to the extent that they relate to items recognized directly in equity or in other comprehensive income.

Amounts recognized in Consolidated Statements of Comprehensive Income/(Loss):

<u>As of December 31,</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
	<u>\$000s</u>	<u>\$000s</u>	<u>\$000s</u>
Income/(loss) for the year	366,065	(70,659)	(75,094)
Income tax expense/(benefit)	112,409	2,221	4,383
Income/(loss) before taxes	478,474	(68,438)	(70,711)

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Recognized income tax expense/(benefit):

As of December 31,	2019 \$000s	2018 \$000s	2017 \$000s
Federal	—	2	(123)
Foreign	—	—	358
State	—	496	(109)
Total current income tax expense/(benefit)	—	498	126
Federal	83,776	2,034	4,255
Foreign	—	(311)	2
State	28,633	—	—
Total deferred income tax expense/(benefit)	112,409	1,723	4,257
Total income tax expense/(benefit), recognized	112,409	2,221	4,383

The tax expense of \$112.4 million, \$2.2 million and \$4.4 million in 2019, 2018 and 2017, respectively, is primarily the result of the establishment of a deferred tax liability for unrealized gains pertaining to our investments in Karuna, Vor, AZ Therapies, and Gelesis, and the remeasurement of existing deferred tax liabilities for unrealized gains pertaining to our investments in resTORbio and Akili.

Reconciliation of Effective Tax Rate

The Group is primarily subject to taxation in the US. A reconciliation of the US federal statutory tax rate to the effective tax rate is as follows:

As of December 31,	2019		2018		2017	
	\$000s	%	\$000s	%	\$000s	%
Weighted-average statutory rate	97,183	21.00	(14,372)	21.00	(24,042)	34.00
Effects of state tax rate in US	22,111	4.78	(3,267)	4.77	376	(0.53)
R&D and orphan drug tax credits	(6,321)	(1.37)	(3,268)	4.78	(2,411)	3.41
Share-based payment measurement	433	0.09	3,429	(5.01)	2,531	(3.58)
Mark-to-market adjustments	3,725	0.80	(3,745)	5.47	13,626	(19.27)
Accretion on preferred shares	—	0.00	22	(0.03)	3,231	(4.57)
Deconsolidation adjustments	(13,658)	(2.95)	9,688	(14.16)	(14,397)	20.36
Mark-to-market investment in subsidiary	—	0.00	(55)	0.08	24,070	(34.04)
Federal tax change	—	0.00	—	0.00	14,741	(20.85)
Tax reform—foreign earnings repatriation	—	0.00	—	0.00	898	(1.27)
Income of partnerships not subject to tax	—	0.00	(78)	0.11	(21)	0.03
Recognition of deferred tax assets not previously recognized	(6,251)	(1.35)	—	0.00	—	0.00
Current year losses for which no deferred tax asset is recognized	14,514	3.14	13,012	(19.01)	13,762	19.46
Other	674	0.15	854	(1.25)	(460)	0.65
	112,410	24.29	2,220	(3.25)	4,382	(6.20)

The Group is also subject to taxation in the UK and exposed to state taxation in certain jurisdictions within the US. Changes in corporate tax rates can change both the current tax expense (benefit) as well as the deferred tax expense (benefit).

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Deferred Tax Assets and Liabilities

Deferred taxes have been recognized in the US jurisdiction in respect of the following items:

As of December 31,	2019 \$000s	2018 \$000s
Operating tax losses	68,690	69,170
Capital loss carryovers	2,292	—
Research credits	9,931	8,056
Investment in subsidiaries	—	589
Share-based payments	9,711	13,003
Deferred revenue	1,125	—
Lease Liability	10,339	—
Other	2,117	2,184
Deferred tax assets	104,205	93,002
Investment in subsidiaries	(173,069)	—
ROU asset	(6,115)	—
Other temporary differences	(3,225)	(33,412)
Deferred tax liabilities	(182,409)	(33,412)
Deferred tax liabilities, net, recognized	115,445	6,428
Deferred tax assets, net, recognized	(142)	(449)
Deferred tax assets, net, not recognized	37,099	65,569

We have recognized deferred tax assets related to entities in the US Federal and Massachusetts consolidated return groups due to future reversals of existing taxable temporary differences that will be sufficient to recover the net deferred tax assets. Our remaining deferred tax assets have not been recognized because it is not probable that future taxable profits will be available to support their realizability.

There was movement in deferred tax recognized which impacted income tax expense of approximately \$112.4 million, primarily related to the unrealized gains pertaining to our investments in resTORbio, Akili, Karuna, Vor, AZ Therapies, and Gelesis. The deferred tax liability related to the unrealized gains on these investments exceeds our available US federal and state deferred tax assets.

The Company had US federal net operating losses carry forwards (“NOLs”) of approximately \$243.0 million, \$238.1 million and \$203.1 million as of December 31, 2019, 2018 and 2017, respectively, which are available to offset future taxable income. These NOLs expire through 2037 with the exception of \$126.6 million which is not subject to expiration. The Company had US Federal research and development tax credits of approximately \$7.4 million, \$6.7 million and \$4.4 million as of December 31, 2019, 2018 and 2017, respectively, which are available to offset future taxes that expire at various dates through 2039. The Company also had Federal Orphan Drug credits of approximately \$3.7 million as of December 31, 2019, which are available to offset future taxes that expire at various dates through 2039. These NOLs and credits are subject to review and possible adjustment by the Internal Revenue Service.

The Company had Massachusetts net operating losses carry forwards (“NOLs”) of approximately \$273.0 million, \$179.5 million and \$116.1 million as of December 31, 2019, 2018 and 2017, respectively, which are available to offset future taxable income. These NOLs expire at various dates beginning in 2024. The Company had Massachusetts research and development tax credits of approximately \$1.6 million, \$1.3 million and \$0.4 million as of December 31, 2019, 2018 and 2017, respectively, which are available to offset future taxes and expire at various dates through 2034. These NOLs and credits are subject to review and possible adjustment by the Massachusetts Department of Revenue.

Utilization of the NOLs and research and development credit carryforwards may be subject to a substantial annual limitation under Section 382 of the Internal Revenue Code of 1986 due to ownership change limitations

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that have occurred previously or that could occur in the future. These ownership changes may limit the amount of NOL and research and development credit carryforwards that can be utilized annually to offset future taxable income and tax, respectively. The Company notes that a 382 analysis was performed through December 31, 2019. The results of this analysis concluded that certain net operating losses were subject to limitation under Section 382 of the Internal Revenue Code. None of the Company's tax attributes which are subject to a restrictive Section 382 limitation have been recognized in the financial statements.

Uncertain Tax Positions

The changes to uncertain tax positions from January 1, 2018 through December 31, 2019 are as follows:

	US \$000s	Foreign \$000s	Total \$000s
Gross tax liabilities as of January 1, 2018	—	15	15
Additions based on tax provisions related to the current year	—	—	—
Additions to tax positions of prior years	—	—	—
Reductions due to settlements with tax authorities	—	—	—
Reductions for positions of prior years	—	(12)	(12)
Gross tax liabilities as of December 31, 2018	—	3	3
Additions based on tax provisions related to the current year	—	—	—
Additions to tax positions of prior years	—	—	—
Reductions due to settlements with tax authorities	—	—	—
Reductions for positions of prior years	—	(3)	(3)
Gross tax liabilities as of December 31, 2019	—	—	—

US corporations are routinely subject to audit by federal and state tax authorities in the normal course of business. During 2019, the IRS completed an audit of Vedanta for the financial year ended December 31, 2016 with no impact to the Group's financial condition, results of operations, or cash flows.

26. Sale of assets

In February 2018, The Sync Project, Inc. ("Sync") entered into an asset purchase agreement with Bose Corporation for the sale of certain assets and liabilities. The total aggregate purchase price was \$4.5 million, consisting of approximately \$4.0 million paid at closing and \$0.5 million in cash deposited into escrow to be held for 12 months in order to secure the indemnification obligations of Sync after the closing date.

PureTech Health derecognized certain assets and liabilities based on their historical costs. The excess of the consideration transferred over the historical costs of the assets and liabilities resulted in a gain of approximately \$4.0 million, which was recorded to the line item "Gain on sale of assets" on the accompanying Consolidated Statements Comprehensive Income/ (Loss) for the year ended December 31, 2018.

Additionally, as part of the derecognition, the Company and certain preferred shareholders received a cash distribution of approximately \$3.3 million during the year ended December 31, 2018. During the year ended December 31, 2019, certain preferred shareholders received further cash distributions of \$0.1 million. As of December 31, 2019, no remaining third party obligations remained.

27. Tal Merger Agreement

During the year ended December 31, 2018, Tal Medical, Inc. ("Tal") a subsidiary of the Group entered into an option agreement with a third party, through which the third party was given the option to acquire substantially all of Tal's assets. The option was contingent on the third party raising gross proceeds of \$15 million prior to January 1, 2019 (the option expiration date). Upon the expiration of the option all external investors, not

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including PureTech, would be entitled to a distribution equal to the cash on hand on the date of expiration, and Tal's operations would wind down. As of December 31, 2018, the minimum gross proceeds were not raised, resulting in the option expiring. As a result, the preferred shares were adjusted to the cash distribution the external investors were entitled to, which totaled \$0.1 million, resulting in gain of \$11 million being recognized in Finance income/(costs)—fair value accounting line of the Consolidated Statements of Comprehensive Income/(Loss) for the year ended December 31, 2018. In 2019 a merger was executed between PureTech and Tal wherein PureTech became the sole shareholder of Tal following the liquidation of all assets. In 2019, certain preferred shareholders received distributions of \$0.1 million in connection with the merger. As of December 31, 2019 Tal was an inactive entity in the Group's Parent segment.

28. Subsequent Events

The Company has evaluated subsequent events after December 31, 2019, the date of issuance of the Consolidated Financial Statements, and has not identified any recordable or disclosable events not otherwise reported in these consolidated financial statements or notes thereto, except for the following:

On January 6, 2020, Sonde effected the second tranche closing of its Series A-2 preferred share financing which initially closed on April 4, 2019. The Company received an aggregate of \$4.8 million in gross proceeds in the second tranche closing.

On January 22, 2020, PureTech Health sold 2,100,000 common shares of Karuna for aggregate proceeds of \$200.9 million. As of March 13, 2020, PureTech Health held 5,295,397 common shares, or 20.3 percent, of Karuna.

On February 5, 2020, PureTech Health participated in the second closing of Vor's Series A-2 preferred share financing which initially closed on February 12, 2019. PureTech's participation totaled \$0.7 million. Proceeds for the second closing totaled \$17.8 million.

In March 2020, the World Health Organization declared the outbreak of a new Coronavirus, now known as COVID-19, a pandemic. The outbreak of the virus has caused material disruptions to the global economy, including its health care system. Since the future course and duration of the COVID-19 outbreak are unknown, the Company is currently unable to determine whether the outbreak will have a negative effect on the Company's results in 2020. To date, the Company has seen limited impact on its research and development activities and the operation of the Company more generally. If the pandemic continues to extended for a period of time such as six months, the Company would potentially have milestones delayed; however the Company has sufficient capital to absorb any potential delays and continue operations in line with its going concern statement set forth in Note 1.

On April 1, 2020, PureTech Health participated in the second closing of Gelesis' Series 3 Growth preferred share financing which initially closed on December 5, 2019. PureTech's participation totaled \$10.0 million. Proceeds for the second closing totaled \$14.1 million.

In April 2020, PureTech sold its remaining 2,119,696 resTORbio common shares, for aggregate proceeds of \$3.0 million.

In April 2020, Vedanta issued and sold shares of Series C-2 preferred shares for aggregate proceeds of \$6.5 million, of which none was contributed by PureTech.

On May 26, 2020, PureTech sold 555,500 Karuna common shares for aggregate proceeds of \$45.0 million.

On June 30, 2020, PureTech participated in the 1st closing of Vor's Series B Preferred Share financing. For consideration of \$0.5 million, PureTech received 961,538 shares.

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On July 10, 2020, pursuant to its collaboration agreement with JSR Corporation, Vedanta issued 107,389 Series C-2 Preferred shares for \$2.5 million in aggregate proceeds.

On August 26, 2020, PureTech sold 1,333,333 common shares of Karuna for aggregate proceeds of \$101.6 million. Immediately subsequent to the disposal, PureTech continued to hold 3,406,564 common shares or 12.8 percent of total outstanding shares of Karuna.

On September 2, 2020, Vedanta entered into a \$15.0 million loan and security agreement with Oxford Finance LLC. The loan is secured by Vedanta's assets, including equipment, inventory and intellectual property. The loan bears a floating interest rate of 7.73% plus the greater of (i) 30 day U.S. Dollar LIBOR reported in the Wall Street Journal or (ii) 0.17%. The loan matures September 2025 and requires interest only payments for the initial 24 months. For loan consideration, Vedanta also issued Oxford Finance LLC 12,886 Series C-2 preferred share warrants with an exercise price of \$23.28 per share, expiring September 2030.

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Unaudited Condensed Consolidated Statements of Comprehensive Income/(Loss)
For the Six Months Ended June 30

	Note	2020 \$000s	2019 \$000s Restated *
Contract revenue	3	5,465	3,955
Grant revenue	3	1,379	432
Total revenue		6,844	4,387
Operating expenses:			
General and administrative expenses		(21,376)	(29,196)
Research and development expenses		(38,250)	(45,507)
Operating income/(loss)		(52,782)	(70,317)
Other income/(expense):			
Gain/(loss) on deconsolidation	5	—	108,395
Gain/(loss) on investments held at fair value	5	276,910	52,375
Loss realized on sale of investments	5	(44,539)	—
Other income/(expense)		482	(41)
Other income/(expense)		232,852	160,729
Finance income/(costs):			
Finance income	7	1,032	2,383
Finance income/(costs)—contractual	7	(1,213)	(2,106)
Finance income/(costs)—fair value accounting	7	1,866	(32,978)
Finance income/(costs)—subsidiary preferred shares	7	—	(1,425)
Net finance income/(costs)		1,685	(34,126)
Share of net gain/(loss) of associates accounted for using the equity method		(7,271)	—
Income/(loss) before taxes		174,483	56,287
Taxation	18	(50,775)	(25,142)
Income/(loss)		123,708	31,145
Other comprehensive income/(loss):			
<i>Items that are or may be reclassified as profit or loss</i>			
Foreign currency translation differences		—	(82)
Total other comprehensive income/(loss)		—	(82)
Total comprehensive income/(loss)		123,708	31,063
Income/(loss) attributable to:			
Owners of the Company		123,957	73,506
Non-controlling interests	15	(249)	(42,361)
		123,708	31,145
Comprehensive income/(loss) attributable to:			
Owners of the Company		123,957	73,424
Non-controlling interests	15	(249)	(42,361)
		123,708	31,063
Earnings/(loss) per share:		\$	\$
Basic earnings per share	8	0.43	0.26
Diluted earnings per share	8	0.42	0.26

See accompanying notes to the unaudited condensed consolidated interim financial statements.

* Restated as described in Note 2, primarily as a result of a re-assessment of the Company's accounting for the deconsolidation of Karuna and for the asset acquisition by Gelesis.

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Condensed Consolidated Statements of Financial Position as of the Period Ended

	Note	June 30, 2020 \$000s <u>Unaudited</u>	December 31, 2019 \$000s
Assets			
Non-current assets			
Property and equipment, net	9	21,583	21,455
Right of use asset, net	16	21,570	22,383
Intangible assets, net	10	625	625
Investments held at fair value	5	709,456	714,905
Investments in associates		3,371	10,642
Lease receivable—long-term	16	1,895	2,082
Deferred tax assets		—	142
Other non-current assets		152	99
Total non-current assets		<u>758,651</u>	<u>772,333</u>
Current assets			
Trade and other receivables		2,200	1,977
Prepaid expenses and other current assets		2,062	1,946
Lease receivable—short-term	16	365	350
Other financial assets		2,124	2,124
Short-term investments		—	30,088
Cash and cash equivalents		340,120	132,360
Total current assets		<u>346,871</u>	<u>168,845</u>
Total assets		<u>1,105,523</u>	<u>941,178</u>
Equity and liabilities			
Equity			
Share capital	11	5,411	5,408
Share premium	11	288,225	287,962
Merger reserve	11	138,506	138,506
Other reserve	11	(26,776)	(18,282)
Retained earnings/(accumulated deficit)	11	378,400	254,444
Equity attributable to the owners of the Company	11	<u>783,766</u>	<u>668,038</u>
Non-controlling interests	11, 15	(16,887)	(17,640)
Total equity	11	<u>766,879</u>	<u>650,398</u>
Non-current liabilities			
Deferred revenue	3	251	1,220
Deferred tax liability	18	148,418	115,445
Lease liability, non-current	16	33,935	34,914
Total non-current liabilities		<u>182,605</u>	<u>151,579</u>
Current liabilities			
Deferred revenue	3	1,473	5,474
Lease liability, current	16	3,066	2,929
Trade and other payables		12,802	19,750
Taxes payable	18	17,912	93
Subsidiary:			
Notes payable	13, 14	1,455	1,455
Warrant liability	13	7,130	7,997
Preferred shares	12, 13	111,238	100,989
Other current liabilities		<u>963</u>	<u>515</u>
Total current liabilities		<u>156,039</u>	<u>139,201</u>
Total liabilities		<u>338,644</u>	<u>290,780</u>
Total equity and liabilities		<u>1,105,522</u>	<u>941,178</u>

See accompanying notes to the unaudited condensed consolidated interim financial statements.

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Unaudited Condensed Consolidated Statements of Changes in Equity

	Share Capital						Retained earnings/ (accumulated deficit) \$000s	Total parent equity \$000s	Non-controlling interests \$000s	Total equity \$000s
	Shares	Amount \$000s	Share premium \$000s	Merger reserve \$000s	Translation reserve \$000s	Other reserve \$000s				
As at January 1, 2019	282,493,867	5,375	278,385	138,506	10	20,923	(166,693)	276,506	(108,535)	167,971
Net income/(loss)	—	—	—	—	—	—	73,506	73,506	(42,361)	31,145
Foreign currency exchange	—	—	—	—	(82)	—	—	(82)	—	(82)
Total comprehensive income/(loss) for the period	—	—	—	—	(82)	—	73,506	73,424	(42,361)	31,063
Deconsolidation of subsidiary	—	—	—	—	—	—	—	—	2,584	2,584
Equity settled share-based payments	—	—	—	—	—	3,251	—	3,251	3,140	6,391
Other	—	—	—	—	—	3	(81)	(78)	—	(78)
Balance June 30, 2019 (unaudited)	282,493,867	5,375	278,385	138,506	(72)	24,177	(93,269)	353,103	(145,172)	207,931

	Share Capital						Retained earnings/ (accumulated deficit) \$000s	Total parent equity \$000s	Non-controlling interests \$000s	Total equity \$000s
	Shares	Amount \$000s	Share premium \$000s	Merger reserve \$000s	Translation reserve \$000s	Other reserve \$000s				
Balance as of January 1, 2020	285,370,619	5,408	287,962	138,506	—	(18,282)	254,444	668,037	(17,639)	650,398
Net Income/(loss)	—	—	—	—	—	—	123,957	123,957	(249)	123,708
Total comprehensive income/(loss) for the period	—	—	—	—	—	—	123,957	123,957	(249)	123,708
Settlement of restricted stock units	—	—	—	—	—	(12,522)	—	(12,522)	—	(12,522)
Exercise of share-based awards	141,842	3	263	—	—	—	—	265	1	266
Distributions	—	—	—	—	—	—	—	—	(6)	(6)
Revaluation of deferred tax assets related to share-based awards	—	—	—	—	—	(171)	—	(171)	—	(171)
Equity settled share-based payments	—	—	—	—	—	4,200	—	4,200	1,005	5,206
Balance June 30, 2020 (unaudited)	285,512,461	5,411	288,225	138,506	—	(26,776)	378,400	783,766	(16,887)	766,878

See accompanying notes to the unaudited condensed consolidated interim financial statements.

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Unaudited Condensed Consolidated Statements of Cash Flows
For the Six Months Ended June 30

	Note	2020 \$000s	2019 \$000s Restated *
Cash flows from operating activities			
Income/(loss)		123,708	31,145
Adjustments to reconcile net income including non-controlling interest to net cash used in operating activities:			
Non-cash items:			
Depreciation and amortization	9, 16	3,182	2,858
Equity settled share-based payment expense	6	5,206	6,391
Gain on deconsolidation	5	—	(108,395)
(Gain)/loss on investments held at fair value	5	(276,910)	(52,375)
Loss realized on sale of investments	5	44,539	—
Loss on associates accounted for using the equity method		7,271	—
Loss on disposal of assets		15	—
Income taxes, net	18	50,775	25,277
Net finance costs	7	(1,686)	34,125
Changes in operating assets and liabilities:			
Accounts receivable		(80)	(3,581)
Prepaid expenses and other current assets		(28)	(1,538)
Deferred revenues	3	(4,971)	3,546
Accounts payable and accrued expenses		(6,991)	1,837
Other liabilities		368	3,975
Other		(6)	478
Income taxes paid		(295)	—
Interest received		1,004	1,878
Interest paid	16	(1,200)	(948)
Net cash used in operating activities		(56,098)	(55,326)
Cash flows from investing activities:			
Purchase of property, plant and equipment	9	(2,054)	(9,717)
Purchases of associates preferred shares held at fair value	5	(10,650)	(5,650)
Purchases of investments held at fair value	5	(500)	(1,556)
Cash in subsidiary eliminated upon deconsolidation		—	(10,379)
Purchases of short term investments		—	(39,693)
Proceeds from sale of investments held at fair value	5	248,970	—
Receipt of payment for finance sub-lease	16	171	—
Proceeds from maturity of short term investments		30,116	103,995
Net cash provided by/(used in) investing activities		266,052	37,000
Cash flows from financing activities:			
Proceeds from issuance of convertible notes	14	—	1,607
Repayment of long-term debt		—	(178)
Receipt of PPP loan		68	—
Issuance of preferred shares of subsidiaries	12	11,250	32,478
Exercise of stock options	11	266	—
Payment of lease liability	16	(1,256)	(502)
Repurchase of vested restricted share units	11	(12,522)	—
Net cash provided by financing activities		(2,194)	33,405
Effect of exchange rates on cash and cash equivalents		—	(82)
Net increase in cash and cash equivalents		207,760	14,997
Cash and cash equivalents at beginning of year		132,360	117,051
Cash and cash equivalents at end of year		340,120	132,048
Supplemental disclosure of non-cash investment and financing activities:			
Purchase of intangible asset and investment held at fair value in consideration for issuance of warrant liability and assumption of other long and short-term liabilities		—	15,894
Leasehold improvements purchased through lease incentives (deducted from Right of Use Asset)		—	10,680

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Notes to the Condensed Consolidated Financial Statements

1. General information

Description of Business

PureTech Health plc (“PureTech,” the “Parent” or the “Company”) is a public company incorporated, domiciled and registered in the United Kingdom (“UK”). The registered number is 09582467 and the registered address is 8th Floor, 20 Farringdon Street, London EC4A 3AE, United Kingdom.

PureTech, which is comprised of PureTech Health plc and its Founded Entities, is a pre-clinical and clinical-stage biotherapeutics company dedicated to discovering, developing and commercializing highly differentiated medicines for devastating diseases, including intractable cancers, lymphatic and gastrointestinal (GI) diseases, central nervous system (CNS) disorders and inflammatory and immunological diseases, among others.

PureTech’s Condensed Consolidated Financial Statements (“interim financial statements”) consolidate those of the Company and its subsidiaries (together referred to as the “Group”).

The accounting policies applied consistently to all periods presented in these half-yearly Condensed Consolidated Financial Statements are the same as those applied by the Group in its Consolidated Financial Statements in its 2019 Annual Report and Accounts, with the exception of any new standards the Group adopted as of January 1, 2020, included below.

Basis of accounting

These interim financial statements have been prepared in accordance with International Accounting Standards (“IAS”) 34 Interim Financial Reporting and should be read in conjunction with the Group’s last Consolidated Financial Statements as of and for the year ended December 31, 2019. They do not include all the information required for a complete set of IFRS financial statements. However, selected explanatory notes are included to explain events and transactions that are significant to an understanding of the changes in the Group’s financial position and performance since the last annual consolidated financial information included in the annual report and accounts as of and for the year ended December 31, 2019. Certain amounts in the Condensed Consolidated Financial Statements and accompanying notes may not add due to rounding. All percentages have been calculated using unrounded amounts.

The Group has prepared trading and cash flow forecasts for the Group covering the period to the first quarter of 2024. After making inquiries and considering the impact of risks and opportunities on expected cash flows the Directors have a reasonable expectation that the Group has adequate cash to continue in operational existence for the foreseeable future. For this reason, the Group has adopted the going concern basis in preparing the half-yearly results.

These condensed financial statements were authorized for issue by the Company’s Board of Directors on August 26, 2020.

COVID-19 Pandemic

In December 2019, illnesses associated with COVID-19 were reported and the virus has since caused widespread and significant disruption to daily life and economies across geographies. The World Health Organization has classified the outbreak as a pandemic. The Group’s business, operations and financial condition and results has not been significantly impacted during the six months ended June 30, 2020. In response to the COVID-19 pandemic, PureTech has taken swift action to ensure the safety of its employees and other stakeholders. The Company is continuing to monitor the latest developments regarding the COVID-19 pandemic on its business, operations, and financial condition and results, and has made certain assumptions regarding the pandemic for

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purposes of its operational planning and financial projections, including assumptions regarding the duration and severity of the pandemic and the global macroeconomic impact of the pandemic. Despite careful tracking and planning, however, PureTech is unable to accurately predict the extent of the impact of the pandemic on its business, operations, and financial condition and results in future periods due to the uncertainty of future developments. The Company is focused on all aspects of its business and is implementing measures aimed at mitigating issues where possible including by using digital technology to assist operations for our R&D and enabling functions.

Significant Accounting policies

There have been no significant changes in the Group's accounting policies from those disclosed in our Consolidated Financial Statements as of and for the year ended December 31, 2019. The significant accounting policies we use for half-year financial reporting are disclosed in Note 1, Accounting policies of the accompanying notes to the Consolidated Financial Statements included in our 2019 Annual Report, in the below paragraph, and in the section below Adoption of New Accounting Standards.

Research and Development Expenses

Amounts received as part of research and collaboration agreements to participate in certain research and development activities that do not fall within the scope of IFRS 15 are recorded as a credit to the applicable costs in which the collaborating party is participating, at the time the costs are incurred.

Adoption of New Accounting Standards

There have been no recent new accounting standards that have had an impact on the Company's Condensed Consolidated Financial Statements. New accounting standards not listed below were assessed and determined to be either not applicable or did not have a material impact on the Company's Condensed Consolidated Financial Statements or processes.

We adopted the amendments to IAS 1, Presentation of Financial Statements, and IAS 8, Accounting Policies, Changes in Accounting Estimates and Errors which clarified the definition of 'materiality' and how it should be applied. The amendments also improve the explanations of the definition and ensure consistency across all IFRS Standards. There was no impact on the Group's Condensed Consolidated Financial Statements from the adoption of this new standard.

2. Prior period

Primarily as a result of a re-assessment of the Company's accounting for the deconsolidation of Karuna and for the asset acquisition by Gelesis (which was deconsolidated on July 1, 2019), the Company has made certain restatements in its Condensed Consolidated Statement of Comprehensive Income, Condensed Consolidated Statements of Changes in Equity and its Condensed Consolidated Statement of Cash Flows for the six months ended June 30, 2019, as follows:

a. Condensed Consolidated Statement of Comprehensive Income

During the six months ended June 30, 2019, the Company deconsolidated two of its subsidiaries due to loss of control. The gain on deconsolidation was not calculated in accordance with IFRS 10, predominantly since part of the gain was recognized in equity as opposed to Other income. An adjustment has been made in respect of the above, which resulted in an increase to Other income of \$45.2 million, against a direct decrease to the retained earnings account of \$46.4 million, an increase to Other reserves of \$3.8 million and a decrease to Non-controlling interests of \$2.6 million. The impact of these adjustments on the Company's consolidated comprehensive income for the period was an increase in income of \$45.2 million to \$31.1 million profit, rather

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than a loss of \$14.1 million as reported before. There was no impact on the opening balances at January 1, 2019. The changes are as follows:

	2019 \$000s	2019 \$000s	2019 \$000s
	As Previously Reported	Adjustment	As Restated
Other income/(expense):			
Gain on deconsolidation	63,231	45,164	108,395
Other income/(expense)	115,565	45,164	160,729
Income/(loss) before taxes	11,123	45,164	56,287
Taxation	(25,142)	—	(25,142)
Income/(loss) for the period	(14,019)	45,164	31,145
Total other comprehensive income/(loss)	(82)	—	(82)
Total comprehensive income/(loss)	(14,101)	45,164	31,063
Income/(loss) attributable to:			
Owners of the Company	28,342	45,164	73,506
Non-controlling interests	(42,361)	—	(42,361)
	(14,019)	45,164	31,145
Comprehensive income/(loss) attributable to:			
Owners of the Company	28,260	45,164	73,424
Non-controlling interests	(42,361)	—	(42,361)
	(14,101)	45,164	31,063
Earnings per share:	\$	\$	\$
Basic earnings per share	0.10	0.16	0.26
Diluted earnings per share	0.10	0.16	0.26

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b. Condensed Consolidated Statements of Changes in Equity

As a result of the aforementioned adjustment in the application of IFRS 10, as well as an adjustment to the IFRS 16 implementation (which constituted primarily a reclassification with the Deconsolidation of Subsidiaries line item, which did not impact the total retained earnings), the Company has made the following adjustments to the Condensed Consolidated Statements of Changes in Equity for the six months ended June 30, 2019.

	Other reserve \$000s	Retained earnings/(accumulated deficit) \$000s	Total parent equity \$000s	Non- controlling interests \$000s	Total equity \$000s
<u>As previously reported</u>					
Adjustment for the initial application of IFRS 16	—	(642)	(642)	—	(642)
Adjusted balance as of January 1, 2019	<u>20,923</u>	<u>(168,334)</u>	<u>274,865</u>	<u>(108,535)</u>	<u>166,330</u>
Net income/(loss)	—	28,342	28,342	(42,361)	(14,019)
Total comprehensive income/(loss) for the period	—	28,342	28,260	(42,361)	(14,101)
Deconsolidation of subsidiaries	(3,794)	47,621	43,827	5,189	49,015
Balance June 30, 2019	20,380	(92,371)	350,203	(142,567)	207,635
<u>Adjustments</u>					
Adjustment for the initial application of IFRS 16	—	1,641	1,641	—	1,641
Adjusted balance as of January 1, 2019	<u>—</u>	<u>1,641</u>	<u>1,641</u>	<u>—</u>	<u>1,641</u>
Net income/(loss)	—	45,164	45,164	—	45,164
Total comprehensive income/(loss) for the period	—	45,164	45,164	—	45,164
Deconsolidation of subsidiaries	3,794	(47,621)	(43,827)	(2,605)	(46,432)
Other	3	(81)	(78)	—	(78)
Balance June 30, 2019	3,797	(897)	2,900	(2,605)	295
<u>As Restated</u>					
Adjustment for the initial application of IFRS 16	—	999	999	—	999
Adjusted balance as of January 1, 2019	<u>20,923</u>	<u>(166,693)</u>	<u>276,506</u>	<u>(108,535)</u>	<u>167,971</u>
Net income/(loss)	—	73,506	73,506	(42,361)	31,145
Total comprehensive income/(loss) for the period	—	73,506	73,424	(42,361)	31,063
Deconsolidation of subsidiaries	—	—	—	2,584	2,584
Other	3	(81)	(78)	—	(78)
Balance June 30, 2019	<u>24,177</u>	<u>(93,269)</u>	<u>353,103</u>	<u>(145,172)</u>	<u>207,931</u>

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c. Condensed Consolidated Statement of Cash Flows

The Company has restated the Condensed Consolidated Statement of Cash Flows for the six months ended June 30, 2019 to adjust mis-categorization of certain line items (see below). These adjustments do not change the overall increase in cash and cash equivalents during the period, which remained constant. The impact is as follows:

	2019 \$000s	2019 \$000s	2019 \$000s
	<u>As Previously Reported</u>	<u>Adjustments</u>	<u>As Restated</u>
Net cash used in operating activities	(35,482)	(19,844)	(55,326)(a)
Net cash provided by investing activities	13,512	23,487	37,000(b)
Net cash provided by financing activities	37,049	(3,644)	33,405(c)
Effect of exchange rates on cash and cash equivalents	(82)	—	(82)
Net increase in cash and cash equivalents	14,997	—	14,997

- (a) The adjustments to net cash used in operating activities were primarily in relation to (1) changes made to the treatment of an asset acquisition by Gelesis, which was mostly non-cash in nature for the six months ended June 30, 2019, accounted for previously as if it were an actual cash outflow. The updated presentation reflects this change which is to remove this transaction from both operating and investing activities, resulting in a \$11.2 million increase in cash provided by investing activities against an increase in cash used in operating activities; (2) the sale of a short term investment, which was previously inappropriately classified as an operating activity when this was an investing activity. This totaled \$5.0 million and the appropriate classification has now been applied. As a result there was a \$5.0 million increase in cash used by operating activities and an increase in cash provided by investing activities; (3) changes made to the categorization of assets and liabilities that were disposed of in the deconsolidation of Karuna, resulting in a \$2.0 million increase in cash used by operating activities and an increase in cash provided by investing activities; and (4) a removal of the loss on issuance of Gelesis preferred shares of \$1.6 million which was originally included as a cash movement in financing activities. This change resulted in a \$1.6 million increase in cash used by operating activities and an increase in cash provided by financing activities.
- (b) As evidenced in footnote (a), the main adjustments to investing activities were the \$11.2 million increase in cash provided by investing activities related to the Gelesis asset acquisition, the increase of \$5.0 million related to the sale of a short-term investment, as well as the increase of \$2.0 million related to the changes made to categorization of assets and liabilities disposed of in the deconsolidation of Karuna. Also, \$4.7 million was removed from financing activities to decrease net cash provided by financing activities, and from investing activities to increase net cash provided by investing activities, that is to reflect the non-cash nature of the investment in the above mentioned asset acquisition by Gelesis in exchange for the issuance of warrants. Other changes of approximately \$0.6 million resulted from an adjustment to correct purchases of property, plant and equipment.
- (c) The adjustment is the result of the \$4.7 million change mentioned in footnote (b) as well as an adjustment for the payment of the lease liability of \$0.5 million, partially offset by the removal of the loss on issuance of Gelesis preferred shares described in footnote (a) of \$1.6 million.

Please note that no changes will need to be made to the full year financials for 2019 reported on April 9, 2020 as a result of the above mentioned adjustments.

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3. Revenue

Revenue recorded in the Condensed Consolidated Statement of Comprehensive Income/(Loss) consists of the following:

<u>For the six months ended June 30,</u>	<u>2020</u>	<u>2019</u>
	<u>\$000s</u>	<u>\$000s</u>
Contract revenue	5,465	3,955
Grant income	1,379	432
Total revenue	6,844	4,387

All amounts recorded in contract revenue were generated in the United States. All of the Company's contracts as of June 30, 2020 and 2019 were determined to have a single performance obligation which consists of a combined deliverable of license to intellectual property and research and development services. Therefore revenue is recognized over time based on the input method which the Company believes is a faithful depiction of the transfer of goods and services. Progress is measured based on costs incurred to date as compared to total projected costs.

Disaggregated Revenue

The Group disaggregates contract revenue in a manner that depicts how the nature, amount, timing, and uncertainty of revenue and cash flows are affected by economic factors. The Group disaggregates revenue based on contract revenue or grant revenue, and further disaggregates contract revenue based on the transfer of control of the underlying performance obligations.

<u>Timing of revenue recognition</u>	<u>2020</u>	<u>2019</u>
	<u>\$000s</u>	<u>\$000s</u>
Transferred at a point in time	—	—
Transferred over time	5,465	3,955
	<u>5,465</u>	<u>3,955</u>

<u>Customers over 10% of revenue</u>	<u>2020</u>	<u>2019</u>
	<u>\$000s</u>	<u>\$000s</u>
Roche Holding AG	1,518	2,479
Eli Lilly and Company	339	765
Boehringer Ingelheim International GMBH	2,398	—
Imbrium Therapeutics L.P.	1,148	457
	<u>5,403</u>	<u>3,701</u>

4. Segment Information

During the second half of 2019, the Company deconsolidated one of its subsidiaries which resulted in a change to the composition of its reportable segments. Consequently, the Company revised the June 30, 2019 financial information to conform to the presentation as of and for the period ending June 30, 2020. The change in segments reflects how the Company's Board of Directors reviews the Group's results, allocates resources and assesses performance.

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Information About Reportable Segments:

	Internal \$000s	Controlled Founded Entities \$000s	Non- Controlled Founded Entities \$000s	Parent Company & Other \$000s	Consolidated \$000s
June 30, 2020 \$000s					
Consolidated Statements of Comprehensive Loss					
Contract revenue	3,916	1,549	—	—	5,465
Grant revenue	—	1,379	—	—	1,379
Total revenue	3,916	2,928	—	—	6,844
General and administrative expenses	(1,495)	(6,229)	—	(13,652)	(21,376)
Research and development expenses	(17,616)	(20,594)	—	(40)	(38,250)
Total operating income/(expense)	(15,195)	(23,895)	—	(13,692)	(52,782)
Other income/(expense):					
Gain/(loss) on investments held at fair value	—	—	—	276,910	276,910
Loss realized on sale of investments	—	—	—	(44,539)	(44,539)
Other income/(expense)	—	4	—	478	482
Total other income/(expense)	—	4	—	232,848	232,852
Net finance income/(costs)	17	1,765	—	(97)	1,685
Share of net income/(loss) of associates accounted for using the equity method	—	—	—	(7,271)	(7,271)
Income/(loss) from continuing operations	(15,178)	(22,127)	—	211,788	174,483
Income/(loss) before taxes pre IFRS 9 fair value accounting, finance costs— subsidiary preferred shares, share-based payment expense, depreciation of tangible assets and amortization of intangible assets	(13,489)	(21,617)	—	216,111	181,005
Finance income/(costs)—IFRS 9 fair value accounting	—	1,866	—	—	1,866
Share-based payment expense	(1,301)	(1,005)	—	(2,900)	(5,206)
Depreciation of tangible assets	(388)	(784)	—	(782)	(1,955)
Amortization of ROU assets	—	(586)	—	(641)	(1,227)
Taxation	—	(1)	—	(50,774)	(50,775)
Income/(loss)	(15,178)	(22,128)	—	161,014	123,708
Other comprehensive income/(loss)	—	—	—	—	—
Total comprehensive income/(loss)	(15,178)	(22,128)	—	161,014	123,708
Total comprehensive income/(loss) attributable to:					
Owners of the Company	(15,178)	(21,873)	—	161,008	123,957
Non-controlling interests	—	(254)	—	6	(249)
June 30, 2020 \$000s					
Consolidated Statements of Financial Position:					
Total assets	35,905	42,960	—	1,026,657	1,105,522
Total liabilities	42,222	156,024	—	140,398	338,644
Net assets/(liabilities)	(6,317)	(113,064)	—	886,259	766,879

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	Internal \$000s	Controlled Founded Entities \$000s	Non- Controlled Founded Entities \$000s	Parent Company & Other \$000s	Consolidated \$000s
June 30, 2019 \$000s					
Consolidated Statements of Comprehensive Loss					
Contract revenue	2,479	1,262	—	213	3,955
Grant revenue	15	418	—	—	432
Total revenue	<u>2,494</u>	<u>1,680</u>	<u>—</u>	<u>213</u>	<u>4,387</u>
General and administrative expenses	(1,157)	(6,391)	(10,439)	(11,210)	(29,196)
Research and development expenses	(10,757)	(18,534)	(15,555)	(662)	(45,507)
Total operating income/(expense)	<u>(9,420)</u>	<u>(23,244)</u>	<u>(25,994)</u>	<u>(11,659)</u>	<u>(70,317)</u>
Other income/(expense):					
Gain on deconsolidation (restated)*	—	—	—	108,395	108,395
Gain/(loss) on investments held at fair value	—	—	—	52,375	52,375
Other income/(expense)	17	(39)	—	(19)	(41)
Total other income/(expense) (restated)*	<u>17</u>	<u>(39)</u>	<u>—</u>	<u>160,751</u>	<u>160,729</u>
Net finance income/(costs)	—	(4,099)	(30,141)	114	(34,126)
Income/(loss) from continuing operations (restated)*	<u>(9,402)</u>	<u>(27,382)</u>	<u>(56,135)</u>	<u>149,207</u>	<u>56,287</u>
(Loss)/income before taxes pre IFRS 9 fair value accounting, finance costs— subsidiary preferred shares, share-based payment expense, depreciation of tangible assets and amortization of intangible assets					
	(9,285)	(21,106)	(21,874)	152,205	99,939
Finance income/(costs)—subsidiary preferred shares	—	138	(1,564)	—	(1,425)
Finance income/(costs)—IFRS 9 fair value accounting	—	(4,297)	(28,737)	55	(32,978)
Share-based payment expense	(3)	(786)	(3,543)	(2,059)	(6,391)
Depreciation of tangible assets	(70)	(818)	(207)	(126)	(1,221)
Amortization of ROU assets	—	(513)	(83)	(868)	(1,464)
Amortization of intangible assets	(44)	(1)	(129)	—	(173)
Taxation	—	(9)	(162)	(24,970)	(25,142)
Income/(loss) (restated)*	<u>(9,402)</u>	<u>(27,392)</u>	<u>(56,297)</u>	<u>124,237</u>	<u>31,145</u>
Other comprehensive income/(loss)	—	—	(82)	—	(82)
Total comprehensive income/(loss)	<u>(9,402)</u>	<u>(27,392)</u>	<u>(56,380)</u>	<u>124,237</u>	<u>31,063</u>
Total comprehensive income/(loss) attributable to:					
Owners of the Company (restated)*	688	(19,428)	(32,073)	124,237	73,424
Non-controlling interests	<u>(10,090)</u>	<u>(7,964)</u>	<u>(24,307)</u>	<u>—</u>	<u>(42,361)</u>
December 31, 2019 \$000s					
Consolidated Statements of Financial Position:					
Total assets	17,614	54,730	—	868,834	941,178
Total liabilities	<u>10,053</u>	<u>146,054</u>	<u>—</u>	<u>134,673</u>	<u>290,780</u>
Net (liabilities)/assets	<u>7,561</u>	<u>(91,324)</u>	<u>—</u>	<u>734,161</u>	<u>650,398</u>

* See Note 2

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5. Investments held at fair value

Investments held at fair value include both unquoted nonpublic investments and quoted public investments held by PureTech. These investments, which include Akili, Vor, Karuna, Gelesis (other than the investment in common shares), resTORbio and other insignificant investments, are initially measured at fair value and are subsequently re-measured at fair value at each reporting date. Interests in these investments are accounted for as investments held at fair value, as shown below:

<u>Investments held at fair value</u>	<u>\$000's</u>
Balance at December 31, 2019	714,905
Sale of Karuna shares	(245,922)
Sale of resTORbio shares	(3,048)
Loss realised on sale of investments	(44,539)
Cash purchase of Gelesis preferred shares	10,000
Cash purchase of Vor preferred shares	1,150
Gain/(loss)—fair value through profit and loss	276,910
As of June 30, 2020	<u>709,456</u>

Gelesis

On April 1, 2020, PureTech participated in the 2nd closing of Gelesis's Series 3 Growth Preferred Share financing. For consideration of \$10.0 million, PureTech received 579,038 Series 3 Growth shares. During the six months ended June 30, 2020, the Company recognized a gain of \$2.4 million related to the preferred shares and warrants that was recorded in the line item Gain/(loss) on investments held at fair value within the Condensed Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss). Please refer to Note 13 for information regarding the valuation of these instruments.

Vor

On February 12, 2020, PureTech participated in the 2nd closing of Vor's Series A-2 Preferred Share financing. For consideration of \$0.7 million, PureTech received 1,625,000 A-2 shares. On June 30, 2020, PureTech participated in the 1st closing of Vor's Series B Preferred Share financing. For consideration of \$0.5 million, PureTech received 961,538 shares. Additionally, during the six months ended June 30, 2020 the Company recognized a fair value loss of \$1.4 million that was recorded in the line item Gain/(loss) on investments held at fair value within the Condensed Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss). Please refer to Note 13 for information regarding the valuation of these instruments.

Karuna

On January 22, 2020, PureTech sold 2,100,000 shares of Karuna for aggregate proceeds of \$200.9 million. On May 26, 2020, PureTech sold an additional 555,500 Karuna common shares for aggregate proceeds of \$45.0 million. As a result of the sales, the Company recorded a loss of \$44.3 million attributable to blockage discount included in the sales price, to the line item Loss Realized on Sale of Investment within the Condensed Consolidated Statement of Income/ (Loss) and Other Comprehensive Income/ (Loss). Additionally, during the six months ended June 30, 2020 and 2019 the Company recognized a gain of \$261.4 million and \$40.6 million, respectively that was recorded on the line item Gain/(loss) on investments held at fair value within the Condensed Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss). As of June 30, 2020, PureTech continued to hold 4,739,897 Karuna common shares or 17.8 per cent of total outstanding Karuna common shares. Please refer to Note 13 for information regarding the valuation of these instruments.

Akili

During the six months ended June 30, 2020 and 2019, the Company recognized a gain of \$14.3 million and a loss of \$3.9 million, respectively, that was recorded on the line item Gain/(loss) on investments held at fair value

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within the Condensed Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss). Please refer to Note 13 for information regarding the valuation of these instruments.

resTORbio

In April 2020, PureTech sold its remaining 2,119,696 resTORbio common shares, for aggregate proceeds of \$3.0 million. As a result of the sale, the Company recorded a loss of \$0.2 million attributable to blockage discount included in the sales price, to the line item Loss Realized on Sale of Investment within the Condensed Consolidated Statement of Income/ (Loss) and Other Comprehensive Income/ (Loss). Additionally, during the six months ended June 30, 2020 and 2019, the Company recognized a loss of \$0.1 million and gain of \$15.5 million, respectively, that was recorded on the line item Gain/(loss) on investments held at fair value within the Condensed Consolidated Statement of Income/(Loss) and Other Comprehensive Income/(Loss). Please refer to Note 13 for information regarding the valuation of these instruments.

Gain on deconsolidation

The following table summarizes the gain on deconsolidation recognized by the Company:

<u>Six Months Ended June 30</u>	<u>2020</u> <u>\$000s</u>	<u>2019</u> <u>(restated) *</u> <u>\$000s</u>
Gain on deconsolidation of Vor	—	6,357
Gain on deconsolidation of Karuna	—	102,038
Total gain on deconsolidation	—	108,395

* See Note 2

6. Share-based Payments

Share-based payments includes stock options, restricted stock units (“RSUs”) as well as service, market and performance-based RSU awards, all in which the expense is recognized based on the grant date fair value of the awards.

Share-based Payment Expense

The Group’s share-based payment expense for the six months ended June 30, 2020 and 2019, were comprised of charges related to the PureTech Health plc incentive stock and stock option issuances and subsidiary stock plans.

The following table provides the classification of the Group’s consolidated share-based payment expense as reflected in the Condensed Consolidated Statement of Income/(Loss):

<u>Six months ended June 30,</u>	<u>2020</u>	<u>2019</u>
General and administrative	3,522	3,847
Research and development	1,684	2,544
Total	5,206	6,391

The Performance Share Plan

In June 2015, the Group adopted the Performance Stock Plan (“PSP”). Under the PSP and subsequent amendments, awards of ordinary shares may be made to the Directors, senior managers and employees of, and other individuals providing services to the Company and its subsidiaries up to a maximum authorized amount of 10 percent of the total ordinary shares outstanding. The shares have various vesting terms over a period of service between two and four years, provided the recipient remains continuously engaged as a service provider.

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The share-based awards granted under the PSP are equity settled and expire 10 years from the grant date. As of the six months ended June 30, 2020, the Company had granted share-based awards of 8,592,307 stock options and 4,636,347 RSUs, net of forfeitures, exercises and issued RSU shares.

RSUs

During the six months ended June 30, 2020 and 2019, the Company issued no new service, market and performance based RSUs under the PSP.

Each RSU entitles the holder to one ordinary share on vesting and the RSU awards are based on a cliff vesting schedule over a three-year requisite service period in which the Company recognizes compensation expense. Following vesting, each recipient will be required to make a payment of one pence per ordinary share on settlement of the RSUs. Vesting of the RSUs is subject to the satisfaction of service, market and performance conditions.

The Company recognizes the estimated fair value of service, market and performance-based awards as share-based compensation expense over the vesting period based upon its determination of whether it is probable that the performance targets will be achieved. The Company assesses the probability of achieving the performance targets at each reporting period. Cumulative adjustments, if any, are recorded to reflect subsequent changes in the estimated outcome of performance-related conditions.

The fair value of the market-based awards is based on the Monte Carlo simulation analysis utilizing a Geometric Brownian Motion process with 100,000 simulations to value those shares. The model considers share price volatility, risk-free rate and other covariance of comparable public companies and other market data to predict distribution of relative share performance.

The service, market and performance conditions attached to the 2019 RSU awards awarded in December 2019 are based on the achievement of total shareholder return ("TSR"), with 50 percent of the shares under award vesting based on the achievement of absolute TSR targets, 12.5 percent of the shares under the award vesting based on TSR as compared to the FTSE 250 Index, 12.5 percent of the shares under the award vesting based on TSR as compared to the MSCI Europe Health Care Index, and 25.0 percent of the shares under the award vesting based on the achievement of strategic targets. The RSU award criteria have changed over time as the criteria is continually evaluated by the Group's Remuneration Committee.

In 2017, the Company granted certain executives RSUs that vested based on service, market and performance conditions. The vesting of all RSUs was achieved by December 31, 2019 where all service, market and performance conditions were met. The remuneration committee of PureTech's board of directors approved the achievement of the vesting conditions as of December 31, 2019 and reached the decision to cash settle the 2017 RSUs. The settlement value was determined based on the 3 day average closing price of the shares. The settlement value was \$12.5 million. The settlement value did not exceed the fair value at settlement date and as such the cash settlement was treated as an equity transaction, whereby the full repurchase cash settlement amount was charged to equity in Other reserves.

The Company incurred share-based payment expenses for performance based RSUs of \$2.7 million and \$1.3 million for the six months ended June 30, 2020 and 2019, respectively.

Stock Options

During the six months ended June 30, 2020 and 2019, the Company granted 665,392 and 1,274,388 stock option awards under the PSP, respectively.

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The fair value of the stock options awarded by the Company was estimated at the grant date using the Black-Scholes option valuation model, considering the terms and conditions upon which options were granted, with the following weighted- average assumptions:

<u>For the six months ended June 30,</u>	<u>2020</u>	<u>2019</u>
Expected volatility	39.00 %	36.00 %
Expected terms (in years)	5.65	5.47
Risk-free interest rate	0.75 %	2.25 %
Expected dividend yield	—	—
Grant date fair value	\$ 1.11	\$ 0.89
Share price at grant date	\$ 2.97	\$ 2.49

As of June 30, 2020, 5,186,804 incentive options are exercisable with a weighted-average exercise price of \$1.51. Exercise prices ranged from \$0.01 to \$3.61.

The Company incurred share-based payment expenses for incentive options of \$1.5 million and \$0.9 million for the six months ended June 30, 2020 and 2019, respectively.

Significant Subsidiary Plans

The subsidiaries incurred \$1.0 million and \$4.3 million in share-based payment expense for the six months ended June 30, 2020 and 2019.

Vedanta 2010 Stock Incentive Plan

In 2010, the Board of Directors for Vedanta approved the 2010 Stock Incentive Plan (the “Vedanta Plan”). Through subsequent amendments, as of June 30, 2020, it allowed for the issuance of 2,145,867 share-based compensation awards through incentive share options, nonqualified share options, and restricted shares to employees, directors, and nonemployees providing services to Vedanta. At June 30, 2020, 380,723 shares remained available for issuance under the Vedanta Plan.

The options granted under Vedanta Plan are equity settled and expire 10 years from the grant date. Typically, the awards vest in four years but vesting conditions can vary based on the discretion of Vedanta’s Board of Directors.

Options granted under the Vedanta Plan are exercisable at a price per share not less than the fair market value of the underlying ordinary shares on the date of grant. The estimated fair value of options, including the effect of estimated forfeitures, is recognized over the options’ vesting period.

The fair value of the stock option grants has been estimated at the date of grant using the Black-Scholes option pricing model, with the following weighted-average assumptions:

<u>For the six months ended June 30,</u>	<u>2020</u>	<u>2019</u>
Expected volatility	78.24%	90.94%
Expected terms (in years)	6.00	5.95
Risk free interest rate	0.79%	1.88%
Expected dividend yield	— %	— %
Grant date fair value	\$13.13	\$13.98
Share price at grant date	\$19.59	\$18.71

Vedanta incurred share-based compensation expense of \$0.8 million for six months ended June 30, 2020.

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Other Subsidiary Plans

The stock-based compensation expense under plans at other subsidiaries of the Group not including Vedanta, was \$0.2 million for the six months ended June 30, 2020.

7. Finance Cost, net

The following table shows the breakdown of finance income and costs:

	2020 \$000s	2019 \$000s
Finance income		
Interest from financial assets not at fair value through profit or loss	1,032	2,383
Total finance income	1,032	2,383
Finance costs		
Contractual interest expense on notes payable	(13)	(140)
Interest Expense	(1,200)	(2,032)
Gain/(loss) on foreign currency exchange	—	67
Total finance income/(costs)—contractual	(1,213)	(2,106)
Gain/(loss) from change in fair value of warrant liability	867	(6,664)
Gain/(loss) from change in fair value of preferred share and convertible note liability	999	(26,314)
Total finance income/(costs)—fair value accounting	1,866	(32,978)
Total finance income/(costs)—subsidiary preferred shares	—	(1,425)
Finance income/(costs), net	1,685	(34,126)

8. Earnings/(Loss) per Share

Basic earnings/(loss) per share is computed by dividing the income/(loss) attributable to the Company and available to ordinary shareholders by the weighted average number of ordinary shares. Dilutive earnings/loss per share is computed by dividing the income/(loss) attributable to the Company and available to ordinary shareholders by the sum of the weighted average number of ordinary shares and the number of additional ordinary shares that would have been outstanding if the Company's outstanding potentially dilutive securities had been issued.

The following table sets forth the computation of basic and diluted earnings/(loss) per ordinary shares for the periods presented (in thousands, except for shares and per share amounts):

	2020	2019 Restated *
Numerator:		
Income/(loss) attributable to the owners of the Company	123,957	73,506
Denominator:		
Weighted average ordinary shares for basic earnings per ordinary share	285,487,375	282,493,867
Effect of dilutive securities	8,170,249	3,167,815
Weighted average ordinary shares for diluted earnings per ordinary share	293,657,624	285,661,682
Basic earnings per ordinary share	0.43	0.26
Diluted earnings per ordinary share	0.42	0.26

* See Note 2

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9. Property and Equipment

Cost	Laboratory and Manufacturing Equipment \$000s	Furniture and Fixtures \$000s	Computer Equipment and Software \$000s	Leasehold Improvements \$000s	Construction in process \$000s	Total \$000s
Balance as of December 31, 2018	7,306	488	1,431	4,924	239	14,388
Additions, net of transfers	3,374	1,126	175	13,494	4,649	22,819
Disposals	(183)	(168)	(9)	(45)	—	(406)
Deconsolidation of subsidiaries	(3,076)	—	(137)	(754)	(4,190)	(8,158)
Reclassifications	(25)	6	48	36	(76)	(10)
Exchange differences	(11)	—	—	1	24	14
Balance as of December 31, 2019	7,385	1,452	1,508	17,656	645	28,647
Additions, net of transfers	829	—	51	400	818	2,098
Disposals	(20)	—	—	—	—	(20)
Reclassifications	(345)	—	(40)	—	—	(385)
Balance as of June 30, 2020	7,849	1,452	1,519	18,054	1,465	30,338

Accumulated depreciation and impairment loss	Laboratory and Manufacturing Equipment \$000s	Furniture and Fixtures \$000s	Computer Equipment and Software \$000s	Leasehold Improvements \$000s	Construction in process \$000s	Total \$000s
Balance as of December 31, 2018	(3,222)	(233)	(756)	(1,854)	—	(6,065)
Depreciation	(1,328)	(144)	(312)	(1,448)	—	(3,231)
Disposals	102	138	5	20	—	265
Deconsolidation of subsidiaries	1,457	—	53	319	—	1,830
Reclassifications	15	—	(20)	6	—	1
Exchange differences	8	—	—	2	—	9
Balance as of December 31, 2019	(2,968)	(239)	(1,030)	(2,955)	—	(7,192)
Depreciation	(761)	(108)	(157)	(930)	—	(1,955)
Disposals	6	—	—	—	—	6
Reclassifications	345	—	40	—	—	385
Balance as of June 30, 2020	(3,378)	(347)	(1,145)	(3,885)	—	(8,755)

Property and Equipment, net	Laboratory and Manufacturing Equipment \$000s	Furniture and Fixtures \$000s	Computer Equipment and Software \$000s	Leasehold Improvements \$000s	Construction in process \$000s	Total \$000s
Balance as of December 31, 2018	4,084	255	675	3,070	239	8,323
Balance as of December 31, 2019	4,418	1,213	478	14,701	645	21,455
Balance as of June 30, 2020	4,471	1,106	373	14,169	1,465	21,583

Depreciation of property and equipment is included in the General and administrative expenses, and Research and development expenses line items in the Condensed Consolidated Statements of Comprehensive Income/(Loss). The Company recorded depreciation expense of \$2.0 million and \$1.2 million for the six months ended June 30, 2020 and 2019, respectively.

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10. Intangible Assets

Intangible assets consist of licenses of intellectual property acquired by the Group through various agreements with third parties, and are recorded at the value of cash and non-cash consideration transferred. Information regarding the cost and accumulated amortization of intangible assets is as follows:

<u>Cost</u>	<u>Licenses \$000s</u>
Balance at 31 December 2018	5,067
Additions	400
Deconsolidation of subsidiary	(4,842)
Balance as of 31 December 2019	625
Additions	—
Balance as of 30 June 2020	625
<u>Accumulated amortisation</u>	<u>Licenses \$000s</u>
Balance at 31 December 2018	(1,987)
Amortisation	(117)
Deconsolidation of subsidiary	2,104
Balance as of 31 December 2019	—
Balance as of 30 June 2020	—
<u>Intangible assets, net</u>	<u>Licenses \$000s</u>
Balance as of 31 December 2019	625
Balance as of 30 June 2020	625

These intangible asset licenses represent in-process-research-and-development assets since they are still being developed and are not ready for their intended use. As such, these assets are not yet amortized but tested for impairment annually.

11. Equity

At June 30, 2020 and December 31, 2019, 285,512,461 and 285,370,619 common shares were outstanding, respectively, including all vested common shares issued pursuant to PureTech Health LLC Incentive Compensation arrangements as detailed in Note 6.

12. Subsidiary Preferred Shares

IFRS 9 addresses the classification, measurement, and recognition of financial liabilities. Preferred shares issued by subsidiaries and affiliates often contain redemption and conversion features that are assessed under IFRS 9 in conjunction with the host preferred share instrument.

The subsidiary preferred shares are redeemable upon the occurrence of a contingent event, other than full liquidation of the Company, that is not considered to be within the control of the Company. Therefore these subsidiary preferred shares are classified as liabilities. These liabilities are measured at fair value through profit and loss. The preferred shares are convertible into ordinary shares of the subsidiaries at the option of the holder and mandatorily convertible into ordinary shares upon a subsidiary listing in a public market at a price above that specified in the subsidiary's charter or upon the vote of the holders of subsidiary preferred shares specified in the charter. Under certain scenarios the number of ordinary shares receivable on conversion will change and therefore, the number of shares that will be issued is not fixed. As such the conversion feature is considered to be an embedded derivative that normally would require bifurcation. However, since the preferred share liabilities are measured in whole at fair value through profit and loss no bifurcation is required.

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The preferred shares are entitled to vote with holders of common shares on an as converted basis.

The Group recognizes the preferred share balance upon the receipt of cash financing or upon the conversion of notes into preferred shares at the amount received or carrying balance of any notes and derivatives converted into preferred shares.

The balance as of June 30, 2020 and December 31, 2019 represents the fair value of the instruments for all subsidiary preferred shares. The following summarizes the subsidiary preferred share balance:

<u>As of June 30, 2020 and December 31, 2019</u>	<u>2020</u> <u>\$000s</u>	<u>2019</u> <u>\$000s</u>
Entrega	2,042	3,222
Follica	11,486	11,663
Sonde	12,632	7,212
Vedanta Biosciences	85,079	78,892
Total subsidiary preferred share balance	111,238	100,989

As is customary, in the event of any voluntary or involuntary liquidation, dissolution or winding up of a subsidiary, the holders of subsidiary preferred shares which are outstanding shall be entitled to be paid out of the assets of the subsidiary available for distribution to shareholders and before any payment shall be made to holders of ordinary shares. A merger, acquisition, sale of voting control or other transaction of a subsidiary in which the shareholders of the subsidiary do not own a majority of the outstanding shares of the surviving company shall be deemed to be a liquidation event. Additionally, a sale, lease, transfer or other disposition of all or substantially all of the assets of the subsidiary shall also be deemed a liquidation event.

As of June 30, 2020 and December 31, 2019, the minimum liquidation preference reflects the amounts that would be payable to the subsidiary preferred holders upon a liquidation event of the subsidiaries, which is as follows:

<u>As of June 30, 2020 and December 31, 2019</u>	<u>2020</u> <u>\$000s</u>	<u>2019</u> <u>\$000s</u>
Entrega	2,216	2,216
Follica	6,405	6,405
Sonde	12,000	7,250
Vedanta Biosciences	83,661	77,161
Total minimum liquidation preference	104,282	93,032

As of June 30, 2020, the minimum liquidation preference increased as compared to December 31, 2019 owing to the issuance of shares by Vedanta and Sonde.

For the six months ended June 30, 2020, the Group recognized the following changes in the value of subsidiary preferred shares:

	<u>\$000s</u>
Balance as of December 31, 2019	100,989
Issuance of new preferred shares	11,250
Decrease in value of preferred shares measured at fair value	(999)
Other	(2)
Balance as of June 30, 2020	111,238

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2020

In January 2020 and April 2020, Sonde Health issued and sold shares of Series A-2 preferred shares for aggregate proceeds of \$4.8 million, of which none was contributed by PureTech.

In April 2020, Vedanta issued and sold shares of Series C-2 preferred shares for aggregate proceeds of \$6.5 million, of which none was contributed by PureTech.

13. Financial Instruments

The Group's financial instruments consist of financial liabilities, including preferred shares, convertible notes, warrants and loans payable, as well as financial assets classified as assets held at fair value.

Fair Value Process

For financial instruments measured at fair value under IFRS 9, under the further guidance of IFRS 13, the change in the fair value of the entire instrument is reflected through profit and loss. The total business enterprise value and allocatable equity of each entity within the Group was determined using a discounted cash flow income approach, replacement cost/asset approach, market scenario approach, or market backsolve approach through a recent arm's length financing round. The approaches, in order of best evidentiary support, are detailed as follows:

<u>Valuation Method</u>	<u>Description</u>
Market—Backsolve	The market backsolve approach benchmarks the original issue price (OIP) of the company's latest funding transaction as current value. This is based on the premise that the OIP is a result of rational negotiations and comprehensive due diligence by sophisticated financial investors, inherently making it a fair market value. It first computes the value that can be allocated to each security such that the allocated value per share is exactly equal to the OIP.
Market—Scenario	The market scenario method is based on actual prices paid in mergers and acquisitions for similar public and private companies. Also referred to as guideline merged and acquired method ("GMAC"), the GMAC method generally entails the development of revenue, earnings, or book value multiples based on the implied BEV of the target companies. In identifying the comparable publicly traded companies and similar transactions, financial and non-financial factors are usually considered (e.g., business description, size, leverage, and profitability). These methods are most commonly employed when similar transactions exist in the market and/or a similar set of reasonably comparable public companies can be identified.
Income Based—DCF	The income approach is used to estimate fair value based on the income streams, such as cash flows or earnings, that an asset or business can be expected to generate. The discounted cash flow ("DCF") method involves estimating the future cash flow of an asset or business for a certain discrete period and discounting to a present value. If the cash flow stream is expected to continue beyond the discrete period, the reversionary or terminal value is estimated and discounted to present value. The discount rate selected is based on consideration of the risks inherent in the investment and market rates of return available from alternative investments of similar type and quality as of the valuation.
Asset/Cost	The asset/cost approach considers reproduction or replacement cost as an indicator of value. The asset/cost approach is based on the assumption that a prudent investor would pay no more for an entity than the amount for which he could replace or recreate it or an asset with similar utility. Historical costs are often used to estimate

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<u>Valuation Method</u>	<u>Description</u>
	the current cost of replacing the entity valued. When using the cost approach to value a business enterprise, the equity value is calculated as the appraised fair market value of the individual assets that comprise the business less the fair market value of the liabilities.

During the six months ended June 30, 2020 and year ended December 31, 2019, at each measurement date, the total fair value of preferred share, warrants and convertible note instruments, including embedded conversion rights that are not bifurcated, was determined using an option pricing model (“OPM”), probability-weighted expected return method (“PWERM”) or Hybrid allocation framework. The methods are detailed as follows:

<u>Allocation Method</u>	<u>Description</u>
OPM	The OPM model treats preferred stock as call options on the enterprise’s equity value, with exercise prices based on the liquidation preferences of the preferred stock. Under this method, the shares have value only if the funds available for distribution to shareholders exceed the value of the liquidation preferences at the time of a liquidity event (e.g., a merger, sale or IPO), assuming the company has funds available to make a liquidation preference meaningful and collectible by the shareholders. The OPM begins with the current equity or enterprise value and estimates the future distribution of outcomes using a lognormal distribution around that current value.
PWERM	Under a PWERM, the value of the preferred stock is estimated based upon an analysis of future values for the enterprise assuming various future outcomes. Share value is based upon the probability-weighted present value of expected future investment returns, considering each of the possible future outcomes available to the enterprise, as well as the rights of each share class. Although the future outcomes considered in any given valuation model will vary based upon the enterprise’s facts and circumstances, common future outcomes modeled might include an initial public offering (“IPO”), merger or acquisition (“M&A”), dissolution, or continued operation as a viable private enterprise
Hybrid	The hybrid method (“HM”) is a combination of the PWERM and OPM. Under the hybrid method, multiple liquidity scenarios are weighted based on the probability of the scenarios occurrence, similar to the PWERM, while also utilizing the OPM to estimate the allocation of value in one or more of the scenarios. The HM is used when the company is aware of one or more future exit opportunities that result in vastly different payout structures, such as M&A as compared to IPO. The HM is advantageous in these situations because it utilizes the framework of option pricing theory to model a continuous distribution of future outcomes and capture the option-like payoffs of the various share classes while also explicitly considering future scenarios and the discontinuities in outcomes that early-stage companies experience.

Valuation policies and procedures are regularly monitored by the Company’s finance group. Fair value measurements, including those categorized within Level 3, are prepared and reviewed on their issuance date and then on an annual basis and any third-party valuations are reviewed for reasonableness and compliance with the fair value measurements guidance under IFRS.

COVID-19 Consideration

At June 30, 2020, the Group assessed certain key assumptions within the valuation of its unquoted instruments and considered the impact of the COVID-19 pandemic on all unobservable inputs (Level 3). The assumptions considered with respect to COVID-19 included but were not limited to the following: exit scenarios and timing,

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discount rates, revenue assumptions as well as volatilities. Additionally, the Group disclosed additional sensitivities with respect to COVID-19, increasing/ decreasing enterprise values by a magnitude of 10.0 per cent and increasing/ decreasing volatilities by a magnitude of 25.0 per cent.

Subsidiary Preferred Shares Liability and Subsidiary Convertible Notes

The following table summarizes the changes in the Group's subsidiary preferred shares and convertible note liabilities measured at fair value using significant unobservable inputs (Level 3):

	Subsidiary Preferred Shares \$000s	Subsidiary Convertible Notes \$000s
Balance at December 31, 2019	100,989	125
Value at issuance	11,250	—
Change in fair value	(999)	—
Other	(2)	—
Balance at June 30, 2020	111,238	125

Quantitative information about the significant unobservable inputs used in the fair value measurement of the Group's subsidiary preferred share liabilities designated as Level 3 is as follows:

Option Pricing Model Inputs for Preferred Shares under IFRS 9 at June 30, 2020:

Measurement Date	Range of Values			Probability of IPO/M&A
	Expiration Date	Volatility	Risk Free Rate	
31/12/2019	0.7 – 2.0 years	30.00% – 85.00%	1.58% – 1.60%	65%/35%
30/6/2020	1.4 – 2.5 years	35.00% – 85.00%	0.16% – 0.17%	65%/35%

Subsidiary Preferred Shares Sensitivity

The following summarizes the sensitivity from the assumptions made by the Company in respect to the unobservable inputs used in the fair value measurement of the Group's preferred share liabilities, which are recorded at fair value (Please refer to Note 12).

Input As of June 30, 2020	Subsidiary Preferred Shares	
	Sensitivity Range	Financial Liability Increase/(Decrease) \$000s
Enterprise Value	-2%	(1,932)
	2%	1,989
	-10%	(9,702)
	10%	9,679
Volatility	-10%	751
	10%	(791)
	-25%	1,630
	25%	(2,091)
Time to Liquidity	-6 Months	826
	+6 Months	(679)
Risk-free Rate ¹	-0.02%/-0.01%	826
	+0.02%/+0.03%	(679)
IPO/M&A Event Probability	-10%	1,241
	10%	(1,212)

1. Risk-free rate is a function of the time to liquidity input assumption.

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The change in fair value of preferred shares are recorded in Finance cost, net in the Condensed Consolidated Statements of Comprehensive Income/(Loss).

Financial Assets Held at Fair Value

Level 1 Inputs

resTORbio Valuation

ResTORbio (NASDAQ: TORC) is a listed entity on an active exchange and as such the fair value during the six months ended June 30, 2020 was calculated utilizing the quoted common share price. Please refer to Note 5 for further details.

Karuna Valuation

Karuna (NASDAQ: KRTX) is a listed entity on an active exchange and as such the fair value as of June 30, 2020 was calculated utilizing the quoted common share price. Please refer to Note 5 for further details.

Level 3 Inputs

Akili, Gelesis and Vor Valuation

In accordance with IFRS 9, the Company accounts for its preferred share investments in Akili, Gelesis and Vor as financial assets held at fair value through the profit and loss. During the six months ended June 30, 2020, the Company recorded its investment at fair value and recognized a gain of \$15.4 million that was recorded to the Condensed Consolidated Statements of Comprehensive Income/(Loss) on the line item Gain/(loss) on investments held at fair value.

The following table summarizes the changes in the Group's investments held at fair value using significant unobservable inputs (Level 3):

	<u>\$000s</u>
Balance December 31, 2019	154,445
Cash purchase of Gelesis preferred shares	10,000
Cash purchase of Vor preferred shares (please refer to Note 5)	1,150
Gain/(loss)—fair value through profit and loss	15,357
Balance at June 30, 2020	180,951

Option Pricing Model and Probability Weighted Expected Return Method Inputs for Investments Held at Fair Value at June 30, 2020 and December 31, 2019:

<u>PWERM (IPO Scenario) Measurement Date</u>	<u>Range of Values</u>	
	<u>Time to Anticipated Exit Event</u>	<u>Probability of IPO</u>
31/12/2019	1.1—3.0 years	55.0%—75.0%
30/6/2020	1.1—2.75 years	55.0%—75.0%

<u>OPM (Long-term Exit Scenario) Measurement Date</u>	<u>Range of Values</u>		
	<u>Expiration Date</u>	<u>Volatility</u>	<u>Risk Free Rate</u>
31/12/2019	1.13—3 years	56.0%—80.0%	1.59%—1.62%
30/6/2020	1.48—3 years	66.0%—75.0%	0.16%—0.18%

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The following summarizes the sensitivity from the assumptions made by the Company in respect to the unobservable inputs used in the fair value measurement of the Group's investments held at fair value (Please refer to Note 5):

Input As of June 30, 2020	Investments Held at Fair Value	
	Sensitivity Range	Financial Asset Increase/ (Decrease) \$000s
Enterprise Value	-2%	(2,694)
	2%	2,721
	-10%	(12,948)
	10%	13,433
Volatility	-10%	(952)
	10%	1,219
	-25%	(2,570)
	25%	2,895
Time to Liquidity	-6 Months	17,570
	+6 Months	(14,918)
Risk-free Rate ¹	-0.01%/-0.00%	17,570
	+0.00%/+0.01%	(14,918)

1. Risk-free rate is a function of the time to liquidity input assumption.

Subsidiary warrants

Warrants issued by subsidiaries within the Group are classified as liabilities, as they will be settled in a variable number of shares and are not fixed-for-fixed. The following table summarizes the changes in the Group's subsidiary warrant liabilities measured at fair value using significant unobservable inputs (Level 3):

	Subsidiary Warrant Liability \$000s
Balance at December 31, 2019	7,997
Change in fair value	(867)
Balance at June 30, 2020	7,130

The \$7.1 million and \$8.0 million subsidiary warrant liability at June 30, 2020 and December 31, 2019, respectively, is attributable to the outstanding Follica preferred share warrants.

The following weighted average assumptions were utilized by the Company with respect to determining the fair value of the Follica warrants at June 30, 2020:

Assumption/Input	Series A-1 Warrants
Expected term	3.16
Expected volatility	53.7%
Risk free interest rate	0.2%
Expected dividend yield	— %
Estimated fair value of the convertible preferred shares	\$ 2.62
Exercise price of the warrants	\$ 0.07

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The following summarizes the sensitivity from the assumptions made by the Company in respect to the unobservable inputs used in the fair value measurement of the Group's warrant liabilities as of June 30, 2020:

Input As of 30 June 2020	Warrant Liability	
	Sensitivity Range	Financial Liability Increase/(Decrease) \$000s
Enterprise Value	-2%	(108)
	2%	108
	-10%	(530)
	10%	525

Fair Value Measurement and Classification

The fair value of financial instruments by category at June 30, 2020 and December 31, 2019:

	2020					
	Carrying Amount		Fair Value			
	Financial Assets \$000s	Financial Liabilities \$000s	Level 1 \$000s	Level 2 \$000s	Level 3 \$000s	Total \$000s
Financial assets:						
Money Markets ¹	302,020	—	302,020	—	—	302,020
Investments held at fair value	709,456	—	528,504	—	180,951	709,456
Trade and other receivables ²	2,200	—	—	2,200	—	2,200
Total financial assets	1,013,675	—	830,524	2,200	180,951	1,013,675
Financial liabilities:						
Subsidiary warrant liability	—	7,130	—	—	7,130	7,130
Subsidiary preferred shares	—	111,238	—	—	111,238	111,238
Subsidiary notes payable	—	1,455	—	1,455	—	1,455
Total financial liabilities	—	119,824	—	1,455	118,369	119,824

- (1) Issued by a diverse group of corporations, largely consisting of financial institutions, virtually all of which are investment grade.
(2) Outstanding receivables are owed primarily by corporations and government agencies, virtually all of which are investment grade.

	2019					
	Carrying Amount		Fair Value			
	Financial Assets \$000s	Financial Liabilities \$000s	Level 1 \$000s	Level 2 \$000s	Level 3 \$000s	Total \$000s
Financial assets:						
US treasuries ¹	30,088	—	30,088	—	—	30,088
Money Markets ²	106,586	—	106,586	—	—	106,586
Investments held at fair value	714,905	—	560,460	—	154,445	714,905
Trade and other receivables ²	1,977	—	—	1,977	—	1,977
Total financial assets	853,556	—	697,134	1,977	154,445	853,556
Financial liabilities:						
Subsidiary warrant liability	—	7,997	—	—	7,997	7,997
Subsidiary preferred shares	—	100,989	—	—	100,989	100,989
Subsidiary notes payable	—	1,455	—	1,455	—	1,455
Total financial liabilities	—	110,441	—	1,455	108,986	110,441

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- (1) Issued by governments and government agencies, as applicable, all of which are investment grade.
- (2) Issued by a diverse group of corporations, largely consisting of financial institutions, virtually all of which are investment grade.
- (3) Outstanding receivables are owed primarily by corporations and government agencies, virtually all of which are investment grade.

14. Subsidiary Notes Payable

The subsidiary notes payable are comprised of loans made to, and convertible notes issued by, subsidiaries in the Group. As of June 30, 2020 and December 31, 2019, the financial instruments for Knode and Appeering did not contain embedded derivatives and therefore these instruments continue to be held at amortized cost. The notes payable consist of the following:

<u>As of</u>	<u>June 30, 2020</u> <u>\$000s</u>	<u>December 31, 2019</u> <u>\$000s</u>
Loans	1,330	1,330
Convertible notes	125	125
Total subsidiary notes payable	1,455	1,455

Loans

In October 2010, Follica entered into a loan and security agreement with Lighthouse Capital Partners VI, L.P. The loan is secured by Follica's assets, including Follica's intellectual property and bears interest at a rate of 12%. The outstanding loan balance totaled approximately \$1.3 million as of each of June 30, 2020 and December 31, 2019, respectively.

Convertible Notes

Certain of the Group's subsidiaries have issued convertible promissory notes ("Notes") to fund their operations with an expectation of an eventual share-based award settlement of the Notes.

During the six months ended June 30, 2019, the Notes were assessed under IFRS 9 and the entire financial instruments were elected to be accounted for as FVTPL.

Convertible Notes outstanding were as follows:

<u>As of</u>	<u>Knode</u> <u>\$000s</u>	<u>Appeering</u> <u>\$000s</u>	<u>Total</u> <u>\$000s</u>
As of December 31, 2019	50	75	125
As of June 30, 2020	50	75	125

15. Non-Controlling Interest

The following table summarizes the changes in the equity classified non-controlling ownership interest in subsidiaries by reportable segment during the six months ended June 30, 2020:

<u></u>	<u>Controlled</u> <u>Founded Entities</u> <u>\$000s</u>	<u>Parent</u> <u>Company</u> <u>& Other</u> <u>\$000s</u>	<u>Total</u> <u>\$000s</u>
Non-controlling interest as of December 31, 2019	(18,233)	593	(17,639)
Share of comprehensive loss	(249)	—	(249)
Distributions	(6)	—	(6)
Exercise of share-based awards	1	—	1
Equity-settled share-based payment	1,005	—	1,005
Non-controlling interest as of June 30, 2020	(17,481)	593	(16,887)

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16. Leases

The activity related to the Group's right of use asset and lease liability for the six months ended June 30, 2020 is as follows:

	Right of use asset, net \$000s
Balance at December 31, 2019	22,383
Depreciation	(1,227)
Adjustments	414
Balance at June 30, 2020	21,570

	Total lease liability \$000s
Balance at December 31, 2019	37,843
Cash paid for rent	(2,456)
Interest expense	1,200
Adjustments	414
Balance at June 30, 2020	37,001

The following details the short term and long-term portion of the lease liability for the six months ended June 30, 2020:

	Total lease liability \$000s
Short-term Portion of Lease Liability	3,066
Long-term Portion of Lease Liability	33,935
Total Lease Liability	37,001

The sublease agreement with Gelesis was determined to be a finance lease. The rent period term began June 1, 2019 and expires on August 31, 2025. As of June 30, 2020 the balances related to the sublease, classified as a finance lease, were as follows:

	Total lease receivable \$000s
Short-term Portion of Lease Receivable	365
Long-term Portion of Lease Receivable	1,895
Total Lease Receivable	2,261

The sublease with Dewpoint Therapeutics was determined to be an operating lease. The rent period term began September 1, 2019 and expires August 31, 2021. Sublease income from operating lease recognized by the Company during the six months ended June 30, 2020 was \$0.5 million.

17. Related Parties Transactions**Related Party Sublease**

During 2019, PureTech executed a sublease agreement with related party Gelesis. Please refer to Note 16 for further details regarding the sublease.

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Key Management Personnel Compensation

Key management includes executive directors and members of the executive management team of the Group. The key management personnel compensation of the Group was as follows:

	2020 \$000s	2019 \$000s
Wages and short-term employee benefits	1,266	1,449
Share-based payments	2,222	1,586
Total	3,488	3,035

Wages and employee benefits include salaries, health care and other non-cash benefits. Share-based payments are generally subject to vesting terms over future periods.

Convertible Notes Issued to Directors

Certain members of the Group have invested in convertible notes issued by the Group's subsidiaries. As of June 30, 2020 and December 31, 2019, the outstanding related party notes payable totaled approximately \$0.1 million in each period, including principal and interest.

The notes issued to related parties bear interest rates, maturity dates, discounts and other contractual terms that are the same as those issued to outside investors during the same issuances, as described in Note 14.

Directors' and Senior Managers' Shareholdings and Share Incentive Awards

The Directors and senior managers hold beneficial interests in shares in the following businesses and sourcing companies as at June 30, 2020:

Directors	Business Name (Share Class)	Number of shares held as of June 30, 2020	Number of options held as of June 30, 2020	Ownership Interest ¹
Ms Daphne Zohar ²	Gelesis (Common)	59,443	939,086	4.00%
Dame Marjorie Scardino	—	—	—	— %
Dr Bennett Shapiro ³	Akili (Series A-2 Preferred) ⁴	—	33,088	0.20%
	Gelesis (Common)	24,009	10,840	0.10%
	Gelesis (Series A-1 Preferred)	23,418	—	0.10%
	Vedanta Biosciences (Common)	—	25,000	0.22%
	Vedanta Biosciences (Series B Preferred)	11,202	—	0.10%
Dr Robert Langer	Entrega (Common)	—	332,500	4.24%
	Alivio (Common)	—	1,575,000	6.19%
Dr Raju Kucherlapati	Enlight (Class B Common)	—	30,000	3.00%
	Gelesis (Common) ⁶	—	20,000	0.10%
Dr John LaMattina ⁵	Akili (Series A-2 Preferred)	—	37,372	0.20%
	Gelesis (Common) ⁵	54,119	63,050	0.50%
	Gelesis (Common) ⁶	—	20,000	0.10%
	Gelesis (Series A-1 Preferred) ⁵	—	49,524	0.20%
	Vedanta Biosciences (Common)	—	25,000	0.23%
Mr Christopher Viehbacher	—	—	—	— %
Mr Stephen Muniz	Gelesis (Common) ⁶	—	20,000	0.10%
Senior Managers:				
Dr Eric Elenko	—	—	—	— %
Dr Joep Muijrs	—	—	—	— %
Dr Bharatt Chowrira	Karuna (Common) ⁶	10,000	—	0.04%
Dr Joseph Bolen	Vor (Common)	—	125,000	0.04%

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1. Ownership interests as of June 30, 2020 are calculated on a diluted basis, including issued and outstanding shares, warrants and options (and written commitments to issue options) but excluding unallocated shares authorized to be issued pursuant to equity incentive plans and any shares issuable upon conversion of outstanding convertible promissory notes.
2. Common shares and options held by Yishai Zohar, who is the husband of Ms. Zohar. Ms. Zohar does not have any direct interest in the share capital of Gelesis. Ms Zohar recuses herself from any and all material decisions with regard to Gelesis.
3. Dr. Shapiro retired from PureTech's board of directors on June 11, 2020.
4. Shares held through Dr Bennett Shapiro and Ms Fredericka F. Shapiro, Joint Tenants with Right of Survivorship.
5. Dr John and Ms Mary LaMattina hold 50,540 shares of common shares and 49,523 shares of Series A-1 preferred shares in Gelesis. Individually, Dr LaMattina holds 3,579 shares and 63,050 options of Gelesis and convertible notes issued by Appeering in the aggregate principal amount of \$50,000.
6. Options to purchase the listed shares were granted in connection with the service on such founded entity's Board of Directors and any value realized therefrom shall be assigned to PureTech Health, LLC.

Directors and senior managers hold 27,315,840 ordinary shares and 9.6 per cent voting rights of the Company as of June 30, 2020. This amount excludes options to purchase 2,909,344 ordinary shares. This amount also excludes 4,636,347 shares, which are issuable contingent to the terms set for the performance based RSU awards. Such shares will be issued to such senior managers in future periods provided that performance conditions are met and certain of the shares will be withheld for payment of customary withholding taxes.

18. Taxation

Tax benefit/(expense) is recognized based on management's best estimate of the weighted-average annual income tax rate expected for the full financial year multiplied by the pre-tax income of the interim reporting period.

During the six months ended June 30, 2020 and 2019, the Group recorded a consolidated tax provision of \$50.8 million and \$25.1 million, respectively, which represented effective tax rates in continuing operations of 29.1% and 44.4%, respectively. The effective tax rate in the current period is primarily driven by the Company's earnings in the U.S. federal and state jurisdiction in which it operates and is impacted by an increase in unrecorded deferred tax assets in respect of carry-forward losses in the Company's subsidiaries (as it is not probable that they will be realized). The change in the tax rate period over period results from a lower increase in the 2020 interim period as compared to the 2019 interim period in the aforementioned unrecorded deferred tax assets due to deconsolidations and changes in ownership that occurred in 2019 and therefore impacted the 2020 consolidated tax expenses.

19. Subsequent Events

The Company has evaluated subsequent events after June 30, 2020, the date of issuance of the Condensed Consolidated Financial Statements, and has not identified any recordable or disclosable events not otherwise reported in these Condensed Consolidated Financial Statements or notes thereto, except for the following:

On July 10, 2020, pursuant to its collaboration agreement with JSR Corporation, Vedanta issued 107,389 Series C-2 Preferred shares for \$2.5 million in aggregate proceeds.

On August 26, 2020, PureTech sold 1,333,333 common shares of Karuna for aggregate proceeds of \$101.6 million. Immediately subsequent to the disposal, PureTech continued to hold 3,406,564 common shares or 12.8 percent of total outstanding shares of Karuna.

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On September 2, 2020, Vedanta entered into a \$15.0 million loan and security agreement with Oxford Finance LLC. The loan is secured by Vedanta's assets, including equipment, inventory and intellectual property. The loan bears a floating interest rate of 7.73% plus the greater of (i) 30 day U.S. Dollar LIBOR reported in the Wall Street Journal or (ii) 0.17%. The loan matures September 2025 and requires interest only payments for the initial 24 months. For loan consideration, Vedanta also issued Oxford Finance LLC 12,886 Series C-2 preferred share warrants with an exercise price of \$23.28 per share, expiring September 2030.

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UNAUDITED PRO FORMA CONSOLIDATED FINANCIAL INFORMATION

The following unaudited pro forma consolidated financial information for the year ended December 31, 2019 and related notes present the historical consolidated financial statements of PureTech Health plc (“PureTech,” the “Parent,” “Group,” or the “Company”) and the deconsolidation of PureTech’s former consolidated subsidiaries Gelesis, Inc. (“Gelesis”), Vor Biopharma Inc. (“Vor”) and Karuna Therapeutics, Inc. (“Karuna”) as if the completion of all the aforementioned deconsolidations had occurred on January 1, 2019.

Vor

On February 12, 2019, Vor completed a Series A-2 Preferred Stock financing in which PureTech and several new third-party investors participated. As a result of the issuance of the preferred shares to third-party investors, PureTech’s ownership percentage and corresponding voting rights dropped from 79.5 percent to 47.5 percent, and PureTech simultaneously lost control over Vor’s Board of Directors, both of which triggered a loss of control over the entity. As of February 12, 2019, Vor was deconsolidated from the Group’s financial statements. As of such date of deconsolidation, PureTech held preferred shares in Vor and no common shares. The preferred shares held by PureTech fall under the guidance of IFRS 9 and are treated as a financial asset held at fair value. All movements to the value of PureTech’s investment in Vor’s preferred stock are recorded through the Consolidated Statement of Comprehensive Income/(Loss).

Karuna

On March 15, 2019, Karuna completed the closing of a Series B Preferred Stock financing with PureTech and several new third-party investors. As a result of the issuance of the preferred shares to third-party investors, PureTech’s ownership percentage and corresponding voting rights dropped from 70.9 percent to 44.3 percent, and PureTech simultaneously lost control over Karuna’s Board of Directors, both of which triggered a loss of control over the entity. As of March 15, 2019, Karuna was deconsolidated from the Group’s financial statements.

While the Company no longer controlled Karuna pursuant to the deconsolidation, PureTech still had significant influence over Karuna. PureTech’s investment in common shares of Karuna that is subject to equity method accounting, was almost nil (\$0 thousand) on January 1, 2019 and until the date of conversion of Karuna preferred shares to common shares at the end of June 2019 (See Note 5 to the annual consolidated financial statements included herein).

The preferred shares and warrant held by PureTech fall under the guidance of IFRS 9 and were treated as financial assets held at fair value through profit and loss. All movements to the value of PureTech’s investment in Karuna’s preferred stock and warrant were recorded through the Consolidated Statement of Comprehensive Income/(Loss).

Gelesis

On July 1, 2019, the Gelesis Board of Directors was restructured, resulting in two of the three PureTech representatives on the board resigning. As a result of this restructuring, PureTech lost control over Gelesis’s Board of Directors, which triggered a loss of control over the entity. As of July 1, 2019, Gelesis was deconsolidated from the Group’s financial statements.

Upon the date of deconsolidation, PureTech held shares of preferred stock and common stock of Gelesis and a warrant issued by Gelesis to PureTech. While the Company no longer controls Gelesis, it was concluded that PureTech still has significant influence over Gelesis and therefore the investment in Gelesis is accounted for as an associate under IAS 28.

PureTech’s investment in common shares of Gelesis is subject to equity method accounting. The preferred shares and warrant held by PureTech fall under the guidance of IFRS 9 and are treated as financial assets held at fair value and all movements to the value of PureTech’s investment in the preferred stock are recorded through the Consolidated Statement of Comprehensive Income/(Loss) in accordance with IFRS 9.

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and all information herein remains strictly confidential.

Unaudited Pro Forma Consolidated Statement of Comprehensive Income/(Loss)

	For the year ended December 31, 2019			PureTech Pro Forma Final \$000s
	PureTech Historical \$000s	Deconsolidation Pro Forma Adjustments (a) \$000s	Additional Pro Forma Adjustments \$000s	
Contract revenue	8,688	—	—	8,688
Grant revenue	1,119	—	—	1,119
Total revenue	9,807	—	—	9,807
Operating expenses:				
General and administrative expenses	(59,358)	10,181	—	(49,177)
Research and development expenses	(85,848)	15,555	—	(70,293)
Operating income/(loss)	(135,399)	25,736	—	(109,663)
Other income/(expense):				
Gain on deconsolidation	264,409	—	(264,409) (b)	—
Gain/(loss) on investments held at fair value	(37,863)	—	5,876 (c)	(31,987)
Loss on impairment of intangible asset	—	—	—	—
Gain/(loss) on disposal of assets	(82)	—	—	(82)
Gain/(loss) on loss of significant influence	445,582	—	—	445,582
Other income/(expense)	121	—	—	121
Other income/(expense)	672,167	—	(258,533)	413,634
Finance income/(costs):				
Finance income	4,362	(93)	—	4,269
Finance income/(costs)—subsidiary preferred shares	(1,458)	1,564	—	106
Finance income/(costs)—contractual	(2,576)	(67)	—	(2,643)
Finance income/(costs)—fair value accounting	(46,475)	28,737	—	(17,738)
Net finance income/(costs)	(46,147)	30,141	—	(16,006)
Share of net gain/(loss) of associates accounted for using the equity method	30,791	—	(27,695) (d)	3,096
Impairment of investment in associate	(42,938)	—	31,097 (d)	(11,841)
Income/(loss) before taxes	478,474	55,877	(286,227)	279,221
Taxation	(112,409)	162	27,320 (e)	(84,927)
Income/(Loss) for the year	366,065	56,039	(258,907)	194,294
Other comprehensive income/(loss):				
<i>Items that are or may be reclassified as profit or loss</i>				
Foreign currency translation differences	(10)	—	—	(10)
Unrealized gain/(loss) on investments held at fair value	—	—	—	—
Total other comprehensive income/(loss)	(10)	—	—	(10)
Total comprehensive income/(loss) for the year	366,055	56,039	(258,907)	194,284
Income/(loss) attributable to:				
Owners of the Company	421,144	32,085	(227,811)	225,419
Non-controlling interests	(55,079)	23,954	—	(31,125)
	366,065	56,039	(227,811)	194,294
Comprehensive income/(loss) attributable to:				
Owners of the Company	421,134	32,085	(227,811)	225,409
Non-controlling interests	(55,079)	23,954	—	(31,125)
	366,055	56,039	(227,811)	194,284
Earnings/(loss) per share:				
Basic earnings/(loss) per share	1.49			0.80
Diluted earnings/(loss) per share	1.44			0.77

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and all information herein remains strictly confidential.**

The accompanying unaudited pro forma consolidated financial information should be read in conjunction with the notes hereto along with PureTech's most recent historical financial information included herein.

Basis of Preparation

The unaudited pro forma financial information was prepared in accordance with Article 11 of Regulation S-X. Accordingly, the Company's historical consolidated financial statements have been adjusted in the pro forma financial statements to give effect to pro forma events that are (i) directly attributable to the deconsolidations, (ii) expected to have a continuing impact on the Group, and (iii) factually supportable. The unaudited pro forma consolidated financial information is presented for illustrative purposes only and does not purport to represent what the results of operations of PureTech would actually have been had the deconsolidations occurred on January 1, 2019, or to project the results of operations of PureTech for any future periods. The unaudited pro forma adjustments are based on available information and certain assumptions that PureTech's management believes are reasonable.

The unaudited pro forma condensed financial information related to the deconsolidations is based on the assumption that the deconsolidations took place as of January 1, 2019 for purposes of the unaudited pro forma Consolidated Statement of Comprehensive Income/(Loss) for the year ended December 31, 2019.

Pro Forma Adjustments

(a) Deconsolidation Adjustment

The deconsolidation adjustments removes the historical results of Gelesis, Karuna and Vor included in the Consolidated Statement of Comprehensive Income/(Loss) for the year ended December 31, 2019 to effectuate the deconsolidation of such entities as of January 1, 2019.

(b) Gain on Deconsolidation

As of the result of the deconsolidations, the Company recognized a gain upon the deconsolidation of each entity in the Consolidated Statement of Comprehensive Income/(Loss) for the year ended December 31, 2019. The pro forma adjustment removes the gains that the Company recognized upon deconsolidation as they are not expected to have a continuing impact.

(c) Fair Value Adjustments

As of the date of deconsolidation, the Company held preferred shares in the deconsolidated entities, which fall under the guidance of IFRS 9 and are treated as financial assets held at fair value through profit and loss. The pro forma adjustments reflect the incremental amount of gain/loss that would be recorded had the deconsolidations occurred at January 1, 2019.

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(d) Equity Method Accounting

Upon loss of control of Gelesis, the common shares of Gelesis held by the Company were subject to equity method accounting in accordance with IAS 28. The pro forma adjustments reflect the incremental share of equity method losses that the Company should recognize, as well as the adjustment of the impairment loss on Gelesis equity method investment so that the pro forma investment as of December 31, 2019 would equal its net realizable value at that date, assuming that the deconsolidation of Gelesis occurred, and the investment in Gelesis common stock was accounted for under the equity method, beginning January 1, 2019.

	\$000s
The Company's pro forma investment in Gelesis as of January 1, 2019	<u>\$ 13,042</u>
Add: The Company's pro forma share of Gelesis net income for the year ended December 31, 2019	\$ 9,441
Pro forma Gelesis investment balance as of December 31, 2019	<u>\$ 22,483</u>
The Company's pro forma share of Gelesis net income for the year ended December 31, 2019	\$ 9,441
Less: share of net income of Gelesis recorded in the Consolidated Statement of Comprehensive Income/(Loss) for the year ended December 31, 2019	<u>\$ 37,136</u>
Incremental share of net loss to be included as an adjustment in this Unaudited Pro forma Consolidated Statement of Comprehensive Income/(Loss)	<u>\$(27,695)</u>
Net realizable value of investment in Gelesis accounted for under the equity method as of December 31, 2019	\$ 10,642
Pro forma Gelesis investment balance as of December 31, 2019	<u>\$ 22,483</u>
Pro forma impairment loss for the year ended December 31, 2019	<u>\$(11,841)</u>
Less: impairment of Gelesis equity method investment recorded in the Consolidated Statement of Comprehensive Income/(Loss) for the year ended December 31, 2019	<u>\$(42,938)</u>
Reduction of impairment loss to be included as an adjustment in this Unaudited Pro forma Consolidated Statement of Comprehensive Income/(Loss)	<u>\$ 31,097</u>

(e) Taxation

Tax effect of the pro forma adjustments discussed in the notes above, assuming the deconsolidations occurred on January 1, 2019, calculated at the applicable tax rate of each adjustment.

DATED 24 JUNE 2015

Company no. 09582467

ARTICLES OF ASSOCIATION

of

PURETECH HEALTH PLC

Incorporated on 9 May 2015

As adopted by a special resolution passed on 18 June 2015

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ARTICLES OF ASSOCIATION

of

PURETECH HEALTH PLC

Adopted by a special resolution
passed on 18 June 2015

PRELIMINARY

1. Regulations and articles not to apply

No regulations or articles set out in any statute, or in any statutory instrument or other subordinate legislation made under any statute, concerning companies shall apply as regulations or articles of the Company.

2. Interpretation

2.1 In these articles, unless the context requires otherwise:

“**Act**” means the Companies Act 2006.

“**Companies Acts**” means every statute for the time being in force concerning companies (including any statutory instrument or other subordinate legislation made under any such statute), so far as it applies to the Company.

“**address**” includes a number or address used for the purposes of sending or receiving notices, documents or information by electronic means and/or by means of a website.

“**appointor**” means, in relation to an alternate director, the director who has appointed him as his alternate.

“**approved depository**” means a custodian or other person (or a nominee for such custodian or other person) appointed pursuant to an arrangement with the Company or otherwise:

- (a) to hold shares or any rights or interests in any shares; and
- (b) to issue securities, documents of title or other documents which evidence the entitlement of the holder of them to or to receive such shares, rights or interests held by the approved depository,

provided and to the extent that such arrangements have been approved by the board for the purpose of these articles. The trustees (acting in their capacity as such) of any employees' shares scheme established by the Company or any other scheme or arrangements principally for the benefit of employees of the Company and/or its subsidiaries which has been approved by the Company in general meeting shall, unless the board decides otherwise, be treated as an approved depository; as shall the managers (acting in their capacity as such) of any investment or savings plan which the board has approved.

“**articles**” means these articles of association or such other articles of association of the Company for the time being in force.

“auditors” means the auditors for the time being of the Company.

“board” means the board of directors for the time being of the Company or the directors present or deemed to be present at a duly convened meeting of the directors or any committee at which a quorum is present.

“cash memorandum account” means an account so designated by the Operator of the relevant system concerned.

“certificated share” means a share that is not an uncertificated share, and references in these articles to a share being held in certificated form shall be construed accordingly.

“clear days” in relation to a period of notice means that period excluding the day when the notice is given or deemed to be given and the day for which it is given or on which it is to take effect.

“committee” means a committee of the board.

“Company” means PureTech Health plc.

“company” includes any body corporate (not being a corporation sole) or association of persons, whether or not a company within the meaning of the Companies Acts, other than the Company.

“director” means a director for the time being of the Company.

“dividend” includes bonus and any other distribution whether in cash or in specie.

“electronic form” and **“electronic means”** have the meanings given to them by section 1168 of the Act.

“hard copy” and **“hard copy form”** have the meanings given to them by section 1168 of the Act.

“holder” means, in relation to any share, the person whose name is entered in the register as the holder of that share and includes two or more joint holders of that share.

“office” means the registered office for the time being of the Company.

“Operator” means a person approved under the uncertificated securities rules as an operator of a relevant system.

“paid up” means paid up or credited as paid up.

“recognised investment exchange” means a recognised investment exchange within the meaning of the Financial Services and Markets Act 2000 or any other stock exchange outside the United Kingdom on which the Company’s shares are normally traded.

“recognised person” means a person to whom the Company is not required to send or supply a share certificate in accordance with the provisions of the Companies Acts.

“register” means the register of members of the Company to be kept pursuant to the Companies Acts.

“**relevant system**” means a relevant system (as defined in the uncertificated securities rules) in which the Operator of the relevant system has permitted the shares or securities of the Company (or the relevant shares or securities) to be transferred.

“**seal**” means the common seal of the Company or any official or securities seal that the Company may have or may be permitted to have under the Companies Acts.

“**secretary**” means the secretary for the time being of the Company and includes any assistant or deputy secretary and any person appointed by the board to perform the duties of the secretary.

“**share**” means a share in the Company.

“**shareholder**” means a person who is a holder of a share.

“**uncertificated securities rules**” means any provision of the Companies Acts relating to the holding, evidencing of title to or transfer of uncertificated shares, and any legislation, rules or other arrangements made under or by virtue of such provision.

“**uncertificated share**” means a share which is recorded in the register as being held in uncertificated form and title to which may, by virtue of the uncertificated securities rules, be transferred by means of a relevant system, and references in these articles to a share being held in uncertificated form shall be construed accordingly.

“**working day**” means a day that is not a Saturday or Sunday, Christmas Day, Good Friday or any day that is a bank holiday under the Banking and Financial Dealings Act 1971 (c80) in England and Wales.

“**written**” and “**in writing**” includes any method of representing or reproducing words in a legible and non-transitory form whether sent or supplied in electronic form or otherwise.

- 2.2 References in these articles to a document being “**signed**” or to “**signature**” include references to its being executed under hand or under seal or by any other method and, in the case of a communication in electronic form, such references are to its being authenticated as specified by the Companies Acts.
- 2.3 Unless the context requires otherwise, any word or expression contained in these articles and not defined above shall have the same meaning as in the Companies Acts as in force on the date when these articles become binding on the Company.
- 2.4 Where these articles refer to a person entitled to a share by law, this means a person who has been noted in the register as being entitled to a share as a result of the death or bankruptcy of a shareholder or some other event giving rise to the transmission of the share by operation of law.
- 2.5 Words which refer to the singular number only include the plural number, and vice versa.
- 2.6 Words which refer to one gender only include the other genders.
- 2.7 Words which refer to persons or people include companies.
- 2.8 Where these articles refer to months or years, these are calendar months or years.

2.9 Any headings in these articles are included for convenience only, and shall not affect the meaning of these articles.

LIMITED LIABILITY

3. Limited liability

The liability of the members of the Company is limited to the amount, if any, unpaid on the shares held by them.

SHARE CAPITAL

4. Allotment

Subject to the provisions of the Companies Acts and these articles, the board shall have unconditional authority to allot (with or without conferring rights of renunciation), grant options over, offer or otherwise deal with or dispose of any shares or rights to subscribe for or convert any security into shares to such persons (including directors) at such times and generally on such terms and conditions as the board may determine.

5. Redeemable shares

The Company may issue shares which are to be redeemed, or are liable to be redeemed at the option of the Company or the holder. The terms, conditions and manner of redemption of any such shares may be determined by the board before the shares are allotted, or otherwise shall be set out in the articles.

6. Power to attach rights

Subject to the articles, but without prejudice to the rights attached to any existing share, the Company may issue shares with such rights or restrictions as may be determined by ordinary resolution.

7. Variation of rights

7.1 Subject to the provisions of the Companies Acts, all or any of the rights or privileges attached to any class of shares may be varied or abrogated in such manner (if any) as may be provided by such rights, or, in the absence of any such provision, either with the consent in writing of the holders of at least three-fourths of the nominal amount of the shares of that class (excluding any shares of that class held as treasury shares) or with the sanction of a special resolution passed at a separate meeting of the holders of the shares of that class validly held in accordance with the provisions of these articles, but not otherwise.

7.2 The rights attached to any class of shares shall not, unless otherwise expressly provided in the rights attaching to such shares, be deemed to be varied or abrogated by the creation or issue of shares ranking *pari passu* with or subsequent to them or by the purchase or redemption by the Company of any of its own shares.

8. Commissions and brokerages

8.1 The Company may exercise all the powers conferred or permitted by the Companies Acts to pay commissions or brokerages to any person who:

8.1.1 subscribes, or agrees to subscribe, (whether absolutely or conditionally) for shares; or

8.1.2 procures, or agrees to procure, subscriptions (whether absolute or conditional) for shares.

8.2 Such commission or brokerage may be satisfied by the payment of cash or the allotment of fully or partly paid shares or by the grant of an option to call for an allotment of shares or by any combination of such methods.

9. Trusts not recognised

Unless ordered by a court of competent jurisdiction or required by law, the Company shall not recognise any person as holding any share upon any trust and shall not be bound by or be otherwise compelled to recognise (even if it has notice of it) any equitable, contingent, future, partial or other claim to or interest in any share other than an absolute right in the holder to the whole of the share.

10. Renunciation

Subject to the provisions of the Companies Acts and these articles, the board may, at any time after the allotment of shares but before any person has been entered in the register as the holder, recognise a renunciation of those shares by the allottee in favour of some other person and may accord to any allottee of a share a right to effect such renunciation on, and subject to, such terms and conditions as the board considers fit to impose.

ALTERATION OF SHARE CAPITAL

11. New shares

Subject to any special rights or restrictions attached to them by their terms of issue, all new shares shall be subject to the provisions of these articles with reference to allotment, payment of calls, forfeiture, lien, transfer, transmission and otherwise.

12. Sub-division of shares

A resolution authorising the Company to sub-divide its shares may also determine that, as between the shares resulting from such sub-division, any of them may have any preference or other advantage or deferred or qualified rights or be subject to any restriction as compared with the others.

13. Fractions

Subject to any direction by the Company in general meeting, whenever, as the result of any consolidation or consolidation and division of shares, any shareholders would become entitled to fractions of shares, the board may deal with such fractions as it shall determine. In particular, the board may:

13.1 arrange for the sale, for the best price reasonably obtainable, of the shares representing the fractions to any person (including the Company) and distribute the net proceeds of the sale in due proportions amongst those shareholders; except that any amount otherwise due to a shareholder which is less than a minimum sum determined by the board from time to time may be retained for the benefit of the Company, or distributed to an organisation which is a charity for the purposes of the law of England and Wales, Scotland or Northern Ireland. For this purpose, the board may:

13.1.1 if the shares are held in certificated form, authorise any person to sign a transfer of the shares sold to the purchaser of them or to his nominee;

13.1.2 if the shares are held in uncertificated form, exercise any of the Company's powers under article 16.4 to give effect to the sale,

and, in each case, authorise a person to enter the name of the purchaser or his nominee in the register as the holder of the shares which have been sold. The purchaser shall not be bound to see to the application of the purchase monies, and title to the shares shall not be affected by any irregularity in or invalidity of the proceedings relating to the sale. After the name of the purchaser or his nominee has been entered in the register in respect of such shares, the validity of the sale shall not be impeached by any person and the remedy of any person aggrieved by the sale shall be in damages only and against the Company exclusively; or

13.2 subject to the provisions of the Companies Acts, allot to each such shareholder, credited as fully paid by way of capitalisation, the minimum number of new shares required to round up his holding following the consolidation to a whole number (such allotment being deemed to have been effected immediately before consolidation). For such purpose, the board may:

13.2.1 capitalise a sum equal to the aggregate nominal amount of the new shares to be allotted on that basis out of any profits of the Company (whether or not they are available for distribution) which are not required for paying a preferential dividend, or any sum standing to the credit of any other reserve of the Company (including any share premium account, capital redemption reserve or other undistributable reserve); and

13.2.2 appropriate and apply such sum in paying up in full the appropriate number of new shares for allotment and distribution to such shareholders on that basis.

A board resolution capitalising any part of any profits or reserve in accordance with this article 13.2 shall have the same effect as if such capitalisation had been authorised by ordinary resolution of the Company in accordance with these articles and, in relation to any such capitalisation, the board may exercise all the powers conferred on it by these articles without the need for such ordinary resolution.

SHARE CERTIFICATES

14. Right to certificates

14.1 Subject to these articles and unless the terms of allotment of the shares provide otherwise, every person, upon becoming the holder of any shares in certificated form, shall be entitled, without charge, to one certificate for all the shares of any class registered in his name or, in the case of shares in certificated form of more than one class being registered in his name, to a separate certificate for each class of shares so registered.

14.2 Where a shareholder transfers part of his shares comprised in a certificate, he shall be entitled (without charge) to one certificate for the balance of shares retained by him to the extent that the balance is to be held in certificated form.

- 14.3 Such certificate(s) shall be despatched to the person so entitled within the time limits prescribed by the Companies Acts (or, if earlier, within any prescribed time limit or within a time specified when the shares were issued).
- 14.4 The Company shall not be bound to issue more than one certificate in respect of shares in certificated form held jointly by two or more persons. Delivery of a certificate to any one joint holder shall be sufficient delivery to all joint holders.
- 14.5 The Company does not have to issue a certificate to a recognised person.
- 14.6 The Company may deliver a certificate to a broker or agent who is acting for a person who is buying shares in certificated form, or who is having the shares in certificated form transferred to him.
- 14.7 Every certificate of shares shall specify the number and class and the distinguishing numbers (if any) of the shares to which it relates and the amount paid up on them; and shall be issued under the seal, or bearing an imprint or representation of the seal or such other form of authentication as the board may determine, or in such other manner having the same effect as if issued under the seal as the board may approve.

15. Replacement certificates

- 15.1 If a shareholder has two or more share certificates for shares of the same class, he may ask the Company for these to be cancelled and replaced by a single new certificate. Provided that such shareholder pays such reasonable charge as the board may decide, the Company must comply with such a request.
- 15.2 A shareholder may ask the Company to cancel and replace a single share certificate with two or more certificates, for the same total number of shares. The Company may comply with such request and may request that the shareholder pays such reasonable charge as the board may decide.
- 15.3 The board may cancel any certificate which is worn out, defaced, lost or destroyed and issue a replacement certificate on such terms (if any) as to provision of evidence and indemnity (with or without security) and to payment of any exceptional out-of-pocket expenses incurred by the Company as the board may decide, and upon delivery up of the original certificate (where it is worn out or defaced).

UNCERTIFICATED SHARES

16. Uncertificated shares

- 16.1 Subject always to the uncertificated securities rules and to the facilities and requirements of the relevant system concerned, the board may resolve that any class of shares can be held in uncertificated form and that title to such shares may be transferred by means of a relevant system; and the board may make arrangements for any class of shares to be held and transferred in this form. The board may also resolve that shares of any class must cease to be held and transferred in uncertificated form.
- 16.2 In accordance with and subject to the uncertificated securities rules, shares held in uncertificated form may be changed to become shares held in certificated form, and shares held in certificated form may be changed to become shares held in uncertificated form.

- 16.3 No provision of these articles shall apply to shares of any class held in uncertificated form to the extent that it is in any respect inconsistent with:
- 16.3.1 the holding of shares of that class in uncertificated form;
 - 16.3.2 the transfer of title to shares of that class by means of a relevant system; or
 - 16.3.3 any provision of the uncertificated securities rules,
- and, without prejudice to the generality of this article, no provision of these articles shall apply or have effect to the extent that it is in any respect inconsistent with the maintenance, keeping or entering up by the Operator, so long as that is permitted or required by the uncertificated securities rules, of an Operator register of securities in respect of that class of shares in uncertificated form.
- 16.4 Where any class of shares is a participating security and the Company is entitled under any provision of the Companies Acts, the uncertificated securities rules or these articles to sell, transfer or otherwise dispose of, forfeit, re-allot, accept the surrender of or otherwise enforce a lien over a share held in uncertificated form, the Company shall be entitled, subject to the provisions of the Companies Acts, the uncertificated securities rules, these articles and the facilities and requirements of the relevant system:
- 16.4.1 to require the holder of that uncertificated share by notice to change that share into certificated form within the period specified in the notice and to hold that share in certificated form for so long as required by the Company;
 - 16.4.2 to require the holder of that uncertificated share by notice to give any instructions necessary to transfer title to that share by means of the relevant system within the period specified in the notice;
 - 16.4.3 to require the holder of that uncertificated share by notice to appoint any person to take any step, including without limitation the giving of any instructions by means of the relevant system, necessary to transfer that share within the period specified in the notice; and
 - 16.4.4 to take any action that the board considers appropriate to achieve the sale, transfer, disposal, forfeiture, re-allotment or surrender of that share or otherwise to enforce a lien in respect of that share.
- 16.5 Unless the board otherwise determines, shares which a shareholder holds in uncertificated form shall be treated as separate holdings from any shares which that shareholder holds in certificated form. However, shares held in uncertificated form shall not be treated as forming a class which is separate from certificated shares with the same rights.
- 16.6 Unless the board otherwise determines or the uncertificated securities rules otherwise require, any shares issued or created out of or in respect of any uncertificated shares shall be uncertificated shares and any shares issued or created out of or in respect of any certificated shares shall be certificated shares.
- 16.7 The Company shall be entitled to assume that the entries on any record of securities maintained by it in accordance with the uncertificated securities rules and regularly reconciled with the relevant Operator register are a complete and accurate reproduction of the particulars entered in the Operator register and shall accordingly not be liable in respect of any act or thing done or omitted to be done by or on behalf of the Company in reliance on such assumption; in particular, any provision of these articles which requires or envisages that action will be taken in reliance on information contained in the Operator register shall be construed to permit that action to be taken in reliance on information contained in any relevant record of securities (as so maintained and reconciled by the Company).

17. Company's lien on shares not fully paid

- 17.1 The Company shall have a first and paramount lien on every share which is not fully paid up for any amount payable in respect of such share, whether the due date for payment shall have arrived or not, and such lien shall apply to all dividends from time to time declared or other monies payable in respect of such share.
- 17.2 The board may at any time, either generally or in any particular case, waive any lien that has arisen or declare any share to be wholly or partly exempt from the provisions of this article 17. Unless otherwise agreed with the transferee, the registration of a transfer of a share shall operate as a waiver of the Company's lien, if any, on such share.

18. Enforcement of lien by sale

- 18.1 Subject to article 18.2, the Company may enforce its lien by selling, in such manner as the board may determine, any share subject to it.
- 18.2 The Company shall only be entitled to enforce its lien where:
- 18.2.1 the due date for payment of the amount in respect of which the lien exists has arrived;
 - 18.2.2 notice (stating, and demanding payment of, such amount and giving notice of the intention to sell in default of such payment) has been served by the Company on the shareholder concerned (or to any person entitled to the share by law); and
 - 18.2.3 such payment is not made within 14 days of service of such notice.
- 18.3 To give effect to a sale in accordance with article 18.1, the board may:
- 18.3.1 if the share is held in certificated form, authorise any person to sign as transferor a transfer of any share to be sold. Such transfer shall be as effective as if it had been signed by the holder (or person, if any, entitled to the share by law);
 - 18.3.2 if the share is held in uncertificated form, exercise any of the Company's powers under article 16.4 to give effect to the sale, and, in each case, authorise a person to enter the name of the purchaser or his nominee in the register as the holder of the share which has been sold. The purchaser shall not be bound to see to the application of the purchase monies; and the title to the share shall not be affected by any irregularity in or invalidity of the proceedings relating to the sale. After the name of the purchaser or his nominee has been entered in the register in respect of such share, the validity of the sale shall not be impeached by any person and the remedy of any person aggrieved by the sale shall be in damages only and against the Company exclusively.

19. Application of proceeds of sale

- 19.1 The net proceeds of a sale in accordance with article 18.1, after payment of the costs of the sale, shall be applied by the Company in or towards satisfaction of the amount in respect of which the lien exists so far as the same is presently payable. Subject to article 19.2, any residue shall (subject to a like lien for sums not presently payable as existed on the share before the sale) be paid to the shareholder (or to any person entitled to the share by law) immediately before the sale.
- 19.2 If the share is held in certificated form, the Company need not pay to the shareholder any amount due in accordance with the provisions of article 19.1 until the certificate for the share which is sold is surrendered to the Company for cancellation (or until an indemnity (with or without security) as to any lost or destroyed certificate is provided to the Company in such form as the board may decide).

CALLS ON SHARES

20. Calls

- 20.1 Subject to the terms of allotment of shares and provided that any monies unpaid are not payable on a date fixed in accordance with such terms of allotment, the board may make calls on the shareholders in respect of any monies unpaid on the shares or any class of shares held by them (whether in respect of nominal value or any premium).
- 20.2 The board shall give 14 clear days' notice to each shareholder concerned (or to any person entitled to the shares by law) of the amount called on the shares and of when and where payment is to be made.
- 20.3 Subject to article 20.2, each shareholder shall pay to the Company as required by the notice referred to in that article the amount called on his shares.
- 20.4 A call may be required to be paid by instalments.
- 20.5 At any time before receipt by the Company of any sum due under a call, the call may be revoked or payment postponed in whole or in part as the board may determine.
- 20.6 A call shall be deemed to have been made at the time when the resolution of the board authorising such call was passed.
- 20.7 A person on whom a call is made shall remain liable jointly and severally with the successors in title to his shares even though the shares in respect of which the call was made are subsequently transferred.
- 20.8 The joint holders of a share shall be jointly and severally liable for payment of all calls in respect of such share.

21. Power to make different arrangements

Subject to the terms of allotment of shares, on the issue of shares, the board may make different arrangements, as between the holders of such shares, in the amount and the time of payment of calls.

22. Interest on calls; costs, charges and expenses for non-payment

22.1 If the sum payable in respect of any call is not paid on or before the day appointed for payment, the person from whom it is due and payable shall pay:

22.1.1 interest on the unpaid amount; and

22.1.2 all costs, charges and expenses incurred by the Company by reason of such non-payment.

22.2 The rate of interest payable may be fixed at the time of allotment of the shares or, if no rate is fixed, shall be such rate (not exceeding, without the sanction of the Company given by ordinary resolution, 20 per cent per annum) as the board may decide.

22.3 Such interest is payable from (and including) the day appointed for payment until (but excluding) the day of actual payment.

22.4 The board may waive payment of the interest, costs, charges and expenses in whole or in part.

23. Payment in advance

23.1 The board may, if it thinks fit, receive from any shareholder willing to advance the same all or any part of the monies uncalled and unpaid on the shares held by him.

23.2 The liability on the shares in respect of which a payment in advance of calls is made shall be extinguished to the extent of the amount so paid.

23.3 The Company may pay interest on the monies paid in advance, or on so much of them as from time to time exceed the amount of the calls then made on the shares in respect of which the advance has been made, at such rate (not exceeding, without the sanction of the Company given by ordinary resolution, 20 per cent per annum) as the board may decide.

23.4 No part of any monies paid in advance of calls shall be included or taken into account in ascertaining the amount of any dividend payable upon the shares in respect of which such advance has been made.

24. Sums due on allotment treated as calls

Any amount which becomes payable in respect of a share on allotment, or at any date fixed pursuant to the terms of allotment, whether in respect of the nominal value of the share or by way of premium or as an instalment of a call, shall be deemed to be a call; and, in the case of non-payment of any such amount, all the provisions of these articles as to payment of interest, costs, charges and expenses, forfeiture or otherwise shall apply as if such sum had become due and payable by virtue of a call.

FORFEITURE

25. **Notice if call not paid**

If a call remains unpaid after it has become due and payable, the board may at any time give written notice to such shareholder (or to any person entitled to the shares by law) demanding payment. Such notice shall state:

- 25.1 a date, being not less than 14 clear days from the date of the notice, by which payment of the amount of the call outstanding, any interest that may have accrued on that amount and all costs, charges and expenses incurred by the Company by reason of such non-payment shall be made;
- 25.2 the place where payment is to be made; and
- 25.3 that, if the notice is not complied with, the shares in respect of which the call was made will be liable to be forfeited.

26. **Forfeiture for non-compliance**

- 26.1 If the notice referred to in article 25 is not complied with, any share in respect of which it was given may, at any time before the payment required by the notice has been made, be forfeited by a resolution of the board to that effect.
- 26.2 Forfeiture shall be deemed to occur at the time of the passing of the board resolution referred to in article 26.1.
- 26.3 Forfeiture shall include all dividends declared or other monies payable in respect of the forfeited shares, but not paid before the forfeiture.

27. **Notice after forfeiture**

- 27.1 When any share has been forfeited, notice of the forfeiture shall be served on the person who was, before forfeiture, the holder (or the person, if any, entitled to the share by law); but no forfeiture shall be invalidated by any omission to give such notice.
- 27.2 An entry of the fact and date of forfeiture shall be made in the register.

28. **Disposal of forfeited shares**

- 28.1 Until cancelled in accordance with the provisions of the Companies Acts, a forfeited share, together with all rights attaching to it, shall be deemed to be the property of the Company and may be sold, re-allotted or otherwise disposed of either to the person who was, before the forfeiture, the holder (or the person, if any, entitled to the share by law) or to any other person.
- 28.2 Such sale, re-allotment or other disposal shall be made on such terms and in such manner as the board may determine, including (but without limitation to the generality of the preceding wording) with or without any past or accruing dividends and, in the case of re-allotment, with or without any money paid up on it by the former holder being credited as paid up on it on re-allotment.

- 28.3 Where, for the purposes of its disposal, a forfeited share is to be transferred to any person, the board may:
- 28.3.1 if the share is held in certificated form, authorise any person to sign as transferor a transfer of such share to the transferee;
 - 28.3.2 if the share is held in uncertificated form, exercise any of the Company's powers under article 16.4 to give effect to the transfer.
- 28.4 The Company may receive the subscription or purchase monies (if any) given for the share on its re-allotment or disposal, and may register the allottee or, as the case may be, transferee as the holder of the share.
- 28.5 The board may, at any time before any share so forfeited has been cancelled, sold, re-allotted or otherwise disposed of, annul the forfeiture on such conditions as it thinks fit.
- 28.6 A statutory declaration by a director or the secretary that a share has been forfeited on the date stated in the declaration shall be conclusive evidence of the facts stated in it as against all persons claiming to be entitled to the share. The person to whom the share is re-allotted or disposed of shall not be bound to see to the application of the subscription or purchase monies (if any); and the title to the share shall not be affected by any irregularity in or invalidity of the proceedings relating to the forfeiture or re-allotment or disposal of the share. After the name of the allottee or, as the case may be, transferee has been entered in the register in respect of such share, the validity of the re-allotment or transfer shall not be impeached by any person and the remedy of any person aggrieved by the re-allotment or transfer shall be in damages only and against the Company exclusively.

29. Liabilities and claims on forfeiture

- 29.1 Any person whose shares have been forfeited shall cease to be a shareholder in respect of them and (if the shares are held in certificated form) shall surrender to the Company for cancellation the certificate for the shares. However, he shall remain liable to pay, and shall immediately pay, to the Company:
- 29.1.1 all calls, interest, costs, charges and expenses owing on or in respect of such shares at the time of forfeiture; and
 - 29.1.2 interest on such amounts. Such interest is payable from (and including) the day of actual forfeiture until (but excluding) the day of payment. The rate of such interest may be fixed at the time of allotment of the shares or, if no rate is so fixed, shall be such rate (not exceeding, without the sanction of the Company given by ordinary resolution, 20 per cent per annum) as the board may decide,
- and the board may, if it thinks fit, enforce payment of such amounts without any allowance for the value of the shares at the time of forfeiture or for any subscription or purchase monies received on their re-allotment or disposal.
- 29.2 Save for those rights and liabilities expressly saved by these articles or imposed (in the case of past shareholders) by the Companies Acts, the forfeiture of a share shall involve the extinction at the time of forfeiture of all interest in and all claims and demands against the Company in respect of the share, and all other rights and liabilities incidental to the share, as between the shareholder whose share is forfeited and the Company.

30. Surrender

The board may accept the surrender of any share liable to be forfeited and, in such case, references in these articles to forfeiture shall include surrender.

UNTRACED SHAREHOLDERS

31. Power of sale

- 31.1 The Company shall be entitled to sell any share of a shareholder, or any share to which a person is entitled by law, at the best price reasonably obtainable, provided that:
- 31.1.1 for a period of not less than 12 years (during which at least three cash dividends (whether interim or final) shall have been paid to shareholders of the class to which the shares concerned belong):
- 31.1.1.1 no cheque, warrant or money order sent by the Company through the post in a pre-paid envelope addressed to the shareholder, or to the person entitled to the share by law, at his address in the register (or other last known postal address given by such shareholder or person to which cheques, warrants and money orders in respect of such share are to be sent) has been cashed; or
- 31.1.1.2 all funds paid by any bank or other funds transfer system to such shareholder or person in accordance with article 127.1 have been returned to the Company;
- 31.1.2 at the expiration of such period of 12 years, the Company has given notice of its intention to sell such share by advertisement in both a national newspaper and in a newspaper circulating in the area of the address referred to in article 31.1.1.1 above or the address at which services of notices may be effected in the manner authorised by these articles is located; and
- 31.1.3 the Company has not, during such period of 12 years or the further period of three months following the last of such advertisements, received any communication in respect of such share from the shareholder or person entitled by law.
- 31.2 If, during the period of not less than 12 years referred to in article 31.1 or during any period ending on the date when all the requirements of articles 31.1.1 to 31.1.3 (inclusive) have been satisfied, any additional shares have been issued by way of a bonus issue in respect of those shares held at the beginning of, or previously so issued during, such periods, and all the requirements of articles 31.1.2 and 31.1.3 have been satisfied in regard to such additional shares, the Company shall also be entitled to sell the additional shares.
- 31.3 To give effect to any such sale, the board may:
- 31.3.1 if the share is held in certificated form, authorise any person to sign as transferor a transfer of such share to the purchaser or his nominee. Such transfer shall be as effective as if it had been signed by the holder (or person, if any, entitled to the share by law);
- 31.3.2 if the share is held in uncertificated form, exercise any of the Company's powers under article 16.4 to give effect to the sale, and, in each case, authorise a person to enter the name of the purchaser or his nominee in the register as the holder of the share which has been sold. The purchaser shall not be bound to see to the application of the purchase monies; and the title to the share shall not be affected by any irregularity in or invalidity of the proceedings relating to the sale. After the name of the purchaser or his nominee has been entered in the register in respect of such share, the validity of the sale shall not be impeached by any person and the remedy of any person aggrieved by the sale shall be in damages only and against the Company exclusively.

31.4 A statutory declaration by a director or the secretary that a share has been sold on the date stated in the declaration shall be conclusive evidence of the facts stated in it as against all persons claiming to be entitled to the share.

32. Application of proceeds of sale

The Company shall account to the shareholder or other person entitled to such share for the net proceeds of such sale by carrying all monies in respect of that sale to a separate account. The Company shall be deemed to be a debtor and not a trustee in respect of that money for such shareholder or other person. Monies carried to such separate account may either be employed in the business of the Company or invested in such investments as the board may from time to time think fit. No interest shall be payable in respect of such monies and the Company shall not be required to account for any money earned on them.

TRANSFERS OF SHARES

33. General provisions about transfers of shares

33.1 Subject to the provisions of these articles, a shareholder may transfer all or any of his shares to another person.

33.2 The transferor shall be deemed to remain the holder of any share transferred until the name of the transferee is entered in the register in respect of it.

33.3 No fee shall be charged by the Company for the registration of any transfer or any other change relating to or affecting the title to any share or the right to transfer it or for making any other entry in the register.

34. Transfers of uncertificated shares

Every transfer of shares which are in uncertificated form must be made by means of a relevant system.

35. Transfers of certificated shares

35.1 Every transfer of shares which are in certificated form must be in writing in any usual form or in any form approved by the board.

35.2 Such transfer shall be signed by or on behalf of the transferor and (in the case of a transfer of a share which is not fully paid up) by or on behalf of the transferee.

35.3 The Company is entitled to retain any transfer which it registers.

36. Right to refuse registration

36.1 The board may, in its absolute discretion and without giving any reason, refuse to register any transfer of certificated shares if:

36.1.1 it is in respect of shares which are not fully paid up, provided that, if any of the class of shares which are not fully paid up are admitted to trading on a recognised investment exchange, the board shall not refuse to register a transfer if this would stop dealings in that class taking place on an open and proper basis;

- 36.1.2 it is in respect of more than one class of shares;
 - 36.1.3 it is not duly stamped or is not duly certified or otherwise shown to the satisfaction of the board to be exempt from stamp duty; or
 - 36.1.4 it is not delivered for registration to the office or such other place as the board may from time to time determine, accompanied (except in the case of a transfer by a recognised person where a certificate has not been issued) by the certificate for the shares to which it relates and such other evidence as the board may reasonably require to show the right of the transferor to make the transfer and, if the transfer is signed by some other person on his behalf, the authority of that person to do so.
- 36.2 The board may, in its absolute discretion and without giving any reason, refuse to register any allotment or transfer of shares which is in favour of:
- 36.2.1 a child, bankrupt or person of unsound mind; or
 - 36.2.2 more than four joint allottees or transferees.

TRANSMISSION OF SHARES

37. On death

- 37.1 The personal representatives of a deceased shareholder shall be the only persons recognised by the Company as having any title to shares held by him alone or to which he alone is entitled; but, in the case of shares held by more than one person, only the survivor or survivors shall be recognised by the Company as being entitled to such shares.
- 37.2 Nothing in these articles shall release the estate of a deceased shareholder from any liability in respect of any share which had been held by him solely or jointly with another person.

38. Election of person entitled by transmission

- 38.1 Any person who is entitled to a share as a result of the death or bankruptcy of a shareholder or some other event giving rise to the transmission of the share by operation of law may, on producing such evidence as the board may reasonably require, elect either to be registered as the holder or to have some person nominated by him registered as the holder.
- 38.2 If the person so entitled elects to be registered himself, he shall give notice to the Company to that effect. If he elects to have some other person registered, he shall do this:
- 38.2.1 if the share is held in certificated form, by signing as transferor a transfer of the share to that person;
 - 38.2.2 if the share is held in uncertificated form, by a transfer by means of a relevant system (such as CREST).
- The provisions of these articles relating to the transfer of shares (including the right of the board to refuse registration) shall apply to such notice or transfer (as the case may be) as if it were a transfer by the person previously entitled to the share.

39. Rights of person entitled by transmission

- 39.1 When a person becomes entitled to a share as a result of the death or bankruptcy of a shareholder or some other event giving rise to the transmission of the share by operation of law, the rights of the holder in relation to that share shall cease.
- 39.2 The person so entitled to the share is entitled to any dividends and other monies payable in respect of the share (even though he is not registered as the holder of the share). However, the board may:
- 39.2.1 withhold payment of any dividend or other monies payable in respect of the share until such person has produced such evidence of his entitlement as the board may reasonably require; and
- 39.2.2 at any time give notice to such person requiring him to elect either to register himself or to transfer the share. If such notice is not complied with within 60 days, the board may, after that time, withhold payment of all dividends and other monies payable in respect of the share until the requirements of the notice have been complied with.
- 39.3 Unless he is registered as the holder of the share, the person so entitled to the share is not entitled in respect of it to receive notice of, or to exercise any rights conferred on shareholders in relation to, meetings of the Company or any separate meeting of the holders of any class of shares.

GENERAL MEETINGS

40. General meetings

- 40.1 The board may convene a general meeting of the Company whenever it thinks fit.
- 40.2 If, at any time, there are not sufficient directors within the United Kingdom capable of acting to form a quorum, the directors in the United Kingdom capable of acting may convene a general meeting in the same manner as nearly as possible as that in which meetings may be convened by the board.

NOTICE OF GENERAL MEETINGS

41. Postponement of general meetings

If the board, in its absolute discretion, considers that it is impractical or undesirable for any reason to hold a general meeting on the date or at the time or place specified in the notice calling the general meeting, it may postpone the meeting to another date, time and place. When a meeting is so postponed, notice of the date, time and place of the postponed meeting shall be placed in at least one national newspaper in the United Kingdom. Notice of the business to be transacted at such postponed meeting shall not be required.

42. Omission to send notice

The accidental omission to give any notice of a meeting, or to send or supply any document or other information relating to any meeting, to any person entitled to receive the notice, document or other information, or the non-receipt for any reason of any such notice, document or other information by that person, shall not invalidate the proceedings at that meeting.

43. Quorum

- 43.1 No business shall be transacted at any general meeting unless a quorum is present. The absence of a quorum shall not preclude the appointment of a chairman of the meeting in accordance with the provisions of these articles, which shall not be treated as part of the business of the meeting.
- 43.2 The quorum for a general meeting shall, for all purposes, be two shareholders present in person or by proxy and entitled to vote (save that, in the case of the Company having only one shareholder, the quorum shall be one shareholder present in person or by proxy and entitled to vote).

44. Procedure if quorum not present

- 44.1 If a quorum is not present within 15 minutes (or such longer interval as the chairman of the meeting in his absolute discretion thinks fit) from the time appointed for the commencement of the meeting, or if, during a meeting, a quorum ceases to be present, the meeting, if convened by or on the requisition of shareholders, shall be dissolved. In any other case, it shall stand adjourned to such date (being not less than 14 days nor more than 28 days later), time and place as the chairman of the meeting (or, in default, the board) shall appoint.
- 44.2 At any such adjourned meeting the quorum shall be one shareholder present in person or by proxy and entitled to vote. If a quorum is not present within 15 minutes (or such longer interval as the chairman of the meeting in his absolute discretion thinks fit) from the time appointed for the commencement of such adjourned meeting, or if, during the meeting, a quorum ceases to be present, the adjourned meeting shall be dissolved.
- 44.3 The Company shall give not less than seven clear days' notice of any such adjourned meeting.

45. Chairman

- 45.1 The chairman (if any) of the board or, in his absence, the deputy chairman (if any) of the board or, in his absence, some other director nominated by the directors, shall preside as chairman at every general meeting of the Company.
- 45.2 If neither the chairman (if any) nor the deputy chairman (if any) nor such other director is present within 15 minutes after the time appointed for the commencement of the meeting, or none of such persons is willing to act as such, the directors present shall select one of their number to be chairman of the meeting. If only one director is present and he is willing to act, he shall be chairman of the meeting. In default, a shareholder may be elected to be chairman of the meeting by a resolution of the Company passed at the meeting.
- 45.3 The decision of the chairman of the meeting on points of order, matters of procedure or arising incidentally out of the business of the meeting shall be final and conclusive, as shall be his determination, acting in good faith, whether any point or matter is of such a nature.
- 45.4 For the avoidance of doubt, no provision of these articles restricts or excludes any of the powers or rights of a chairman of a meeting which are given by law.

46. Director's right to attend and speak

A director shall be entitled, even though he is not a shareholder, to attend and speak at any general meeting and at any separate meeting of the holders of any class of shares or debentures of the Company.

47. Power to adjourn

47.1 The chairman of the meeting may, with the consent of a meeting at which a quorum is present (and shall, if so directed by the meeting), adjourn any meeting to another date, time and/or place or for an indefinite period.

47.2 Without prejudice to any other power which he may have under these articles or which is given by the general law, the chairman of the meeting may, without the need for the consent of the meeting, interrupt or adjourn any meeting at which a quorum is present to another date, time and/or place or for an indefinite period if he is of the opinion that:

47.2.1 the shareholders wishing to attend cannot be conveniently accommodated in the place appointed for the meeting; or

47.2.2 the conduct of persons present prevents or is likely to prevent the proper and orderly conduct of the meeting; or

47.2.3 it has become necessary to ensure that the business of the meeting is properly considered and transacted.

48. Notice of adjourned meeting

48.1 The provisions of this article 48 shall not apply to a meeting adjourned for lack of a quorum (see article 44).

48.2 The Company shall give not less than seven clear days' notice of any meeting which is adjourned for 28 days or more or for an indefinite period.

48.3 In all other cases, no person shall be entitled to receive notice of an adjourned meeting or of the business to be transacted at the adjourned meeting.

49. Business at adjourned meeting

The only business which shall be transacted at any adjourned meeting is that which might properly have been transacted at the meeting from which the adjournment took place.

50. Attendance and participation at different places and by electronic means

50.1 In the case of any general meeting, the board may, notwithstanding the specification in the notice convening the general meeting of the place at which the chairman of the meeting shall preside ("**Principal Place**"), make arrangements for simultaneous attendance and participation by electronic means allowing persons not present together at the same place to attend, speak and vote at the meeting (including the use of satellite meeting places). The arrangements for simultaneous attendance and participation at any place at which persons are participating using electronic means may include arrangements for controlling or regulating the level of attendance at any particular venue provided that such arrangements shall operate so that all shareholders and proxies are able to attend at one or other of the venues.

- 50.2 The shareholders or proxies at the place or places at which persons are participating using electronic means shall be counted in the quorum for, and be entitled to vote at, the general meeting in question, and that meeting shall be duly constituted and its proceedings valid if the chairman of the meeting is satisfied that adequate facilities are available throughout the meeting to ensure that the shareholders or proxies attending at the places at which persons are participating using electronic means are able to:
- 50.2.1 participate in the business for which the meeting has been convened; and
 - 50.2.2 see and hear all persons who speak (whether through the use of microphones, loud speakers, audiovisual communication equipment or otherwise) in the Principal Place (and any other place at which persons are participating using electronic means).

For the purposes of all other provisions of these articles (unless the context requires otherwise), the shareholders and proxies shall be treated as meeting at the Principal Place.

51. Security arrangements and orderly conduct

The board and, at any general meeting, the chairman of the meeting may make any arrangement and impose any requirement or restriction which it or he (as appropriate) considers appropriate to ensure the security and orderly conduct of a general meeting including, without limitation, requirements for evidence of identity to be produced by those attending the meeting, the searching of their personal property and the restriction of items which may be taken into the meeting place. The board and, at any general meeting, the chairman of the meeting is entitled to refuse entry to, or to eject, a person who refuses to comply with these arrangements, requirements or restrictions or who disrupts the proper and orderly conduct of the meeting.

VOTING

52. Method of voting

- 52.1 At any general meeting, a resolution put to the vote of the meeting shall be decided by a show of hands unless before the show of hands, or before or immediately following the declaration of the result of the show of hands, a poll is duly demanded.
- 52.2 A poll may be demanded on any question by:
 - 52.2.1 the chairman of the meeting;
 - 52.2.2 not less than five shareholders present in person or by proxy and entitled to vote on the resolution;
 - 52.2.3 a shareholder or shareholders present in person or by proxy representing in aggregate not less than 10 per cent of the total voting rights of all the shareholders having the right to vote on the resolution (excluding any voting rights attached to any shares held as treasury shares); or
 - 52.2.4 a shareholder or shareholders present in person or by proxy holding shares conferring a right to vote on the resolution, being shares on which an aggregate sum has been paid up equal to not less than 10 per cent of the total sum paid up on all the shares conferring that right (excluding shares held as treasury shares).

A demand by a proxy for a shareholder shall be deemed to be a demand by that shareholder.

- 52.3 Unless a poll is so demanded and the demand is not withdrawn, a declaration by the chairman of the meeting that the resolution has been carried, or carried by a particular majority, or lost or not carried by a particular majority, and an entry to that effect in the book containing the minutes of proceedings of the Company, shall be conclusive evidence of that fact without proof of the number or proportion of the votes recorded in favour of or against such resolution.

53. Procedure on a poll

- 53.1 If a poll is properly demanded, it shall be taken in such manner as the chairman of the meeting directs. He may appoint scrutineers, who need not also be shareholders, and may fix a date, time and place for declaring the result of the poll. The result of the poll shall be deemed to be the resolution of the meeting at which the poll was demanded.
- 53.2 Any poll demanded on the election of a chairman of a meeting or on any question of adjournment shall be taken at the meeting and without adjournment. A poll demanded on any other question shall be taken at such date, time and place as the chairman of the meeting directs, either at once or after an interval or adjournment (but not more than 30 days after the date of the demand).
- 53.3 No notice need be given of a poll not taken immediately if the date, time and place at which it is to be taken are announced at the meeting at which it is demanded. In any other case, at least seven clear days' notice shall be given specifying the date, time and place at which the poll is to be taken.
- 53.4 The demand for a poll may be withdrawn, but only with the consent of the chairman of the meeting. A demand so withdrawn shall validate the result (if any) of a show of hands declared before the demand was made. In the case of a poll demanded before the show of hands or the declaration of the result of it, the meeting shall continue as if the demand had not been made.
- 53.5 The demand for a poll (other than on the election of the chairman of the meeting or on any question of adjournment) shall not prevent the continuance of a meeting for the transaction of any business other than the question on which a poll has been demanded.

54. Votes of shareholders

- 54.1 The voting rights set out in articles 54.2 and 54.3 are subject to any rights or restrictions as to voting upon which any shares may have been issued or may for the time being be held.
- 54.2 On a show of hands:
- 54.2.1 every shareholder who is entitled to vote on the resolution and who is present in person shall have one vote; and
 - 54.2.2 every proxy present who has been duly appointed by one or more shareholders entitled to vote on the resolution shall have one vote; except that:
 - 54.2.2.1 if a shareholder votes in person on a resolution then, as regards that resolution, his proxy shall have no vote; and

- 54.2.2.2 a proxy shall have one vote for and one vote against the resolution if he has been duly appointed by more than one shareholder entitled to vote on the resolution and either:
- (a) is instructed by one or more of those shareholders to vote for the resolution and by one or more others to vote against it; or
 - (b) is instructed by one or more of those shareholders to vote in one way and is given a discretion as to how to vote by one or more others (and wishes to use that discretion to vote in the other way).
- 54.3 On a poll, every shareholder who is entitled to vote on the resolution and who is present in person or by a duly appointed proxy shall have one vote for every share he holds. A shareholder entitled to more than one vote need not, if he votes on the poll (whether in person or by proxy), use all his votes or cast all the votes he uses in the same way.
- 54.4 In the case of joint holders of a share, the vote of the senior who tenders a vote, whether in person or by proxy, shall be accepted to the exclusion of the votes of the other joint holders. Seniority shall be determined by the order in which the names of the joint holders stand in the register.
- 54.5 A shareholder in respect of whom an order has been made by any court or official having jurisdiction (whether in the United Kingdom or elsewhere) that he is or may be suffering from mental disorder or is otherwise incapable of running his affairs may vote, whether on a show of hands or on a poll, by his receiver, curator bonis or other person authorised for that purpose and appointed by the court or official and any such receiver, curator bonis or other person may vote by proxy; provided, in each case, that evidence (to the satisfaction of the board) of the authority of the person claiming to exercise the right to vote is received by the Company within the time limits prescribed by these articles for the receipt of appointments of proxy for use at the meeting, adjourned meeting or poll at which the right to vote is to be exercised.
- 54.6 For the purposes of determining which persons may attend and vote at a general meeting, and the number of votes each such person has, the notice of the meeting may specify a date and time by which persons must be entered in the register in order to be entitled to attend and vote at the meeting. This date and time must not be more than 48 hours (excluding any part of a day that is not a working day) before the time appointed for the commencement of the meeting.
- 55. Restriction on voting rights**
- 55.1 The provisions of article 64 shall apply to restrict the voting rights of a shareholder where a notice has been given in accordance with section 793 of the Act in respect of shares held by him and the information required by such notice has not been given to the Company.
- 55.2 Unless the board otherwise determines, no shareholder shall be entitled (in respect of any share held by him) to be present or to vote, either in person or by proxy, at any general meeting or at any separate meeting of the holders of any class of shares or on any poll, or to exercise any other rights conferred on shareholders in relation to any such meeting or poll, if any calls or other monies due and payable in respect of such share remain unpaid. Such restrictions shall cease to apply on payment of the amount outstanding and all costs, charges and expenses incurred by the Company by reason of such non-payment.
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56. Voting by proxy

56.1 The appointment of a proxy shall be:

56.1.1 in writing in the usual form, or in such other form as may be approved by the board; and

56.1.2 signed by the appointor or his duly authorised attorney or, if the appointor is a corporation, executed under its seal or signed under the hand of its duly authorised officer or attorney or other person or persons authorised to sign it.

56.2 Subject to any contrary direction contained in the appointment of a proxy, a proxy may demand or join in demanding a poll and, subject to the provisions of these articles, may speak at a general meeting and may vote on any resolution or amendment of a resolution put to, or any other business which may properly come before, the meeting for which it is given, as the proxy thinks fit.

56.3 A proxy need not be a shareholder of the Company.

56.4 A shareholder may appoint more than one proxy to attend on the same occasion, provided that each proxy is appointed to exercise the rights attached to a different share or shares held by such shareholder. Where a shareholder appoints more than one proxy, each such appointment shall specify the number of shares in respect of which each proxy is entitled to exercise the related votes and the shareholder shall ensure that no proxy is appointed to exercise the votes which any other proxy has been appointed by that shareholder to exercise.

56.5 The appointment of a proxy shall not preclude a shareholder from attending and voting in person at the meeting or any adjournment of it or on any poll.

56.6 The appointment of a proxy shall, unless the contrary is stated in it, be valid for any adjournment of the meeting as well as for the meeting(s) to which it relates. No appointment of a proxy shall be valid after the expiry of 12 months from the date it is given.

57. Receipt of proxies

57.1 In order to be valid, the appointment of a proxy must:

57.1.1 (in the case of an appointment of a proxy made in hard copy form) be received at the office (or at such other place within the United Kingdom as may be specified by the Company for the receipt of appointments of proxy in hard copy form) by the relevant time, together with the relevant documents, if any; or

57.1.2 (in the case of an appointment of a proxy made by electronic means or by means of a website) be received at the address by the relevant time. Any relevant documents must also be received at the address or at the office by the relevant time.

57.2 For the purposes of this article 57:

57.2.1 the “**address**” means the number or address which has been specified by the Company for the purpose of receiving appointments of proxy by electronic means or by means of a website;

57.2.2 “**relevant documents**” means the power of attorney or other authority pursuant to which the appointment of proxy is made, or a copy of such document certified by a notary or certified in some other way approved by the board;

57.2.3 the “**relevant time**” shall be:

57.2.3.1 in the case of a meeting or adjourned meeting, 48 hours before the time appointed for the commencement of the meeting or adjourned meeting;

57.2.3.2 in the case of a poll taken more than 48 hours after it was demanded, 24 hours before the time appointed for the taking of the poll; or

57.2.3.3 in the case of a poll taken after the end of a meeting or adjourned meeting but 48 hours or less after it was demanded, before the end of the meeting at which it was demanded,

or, in each case, such later time as the board may determine.

In calculating the periods referred to in this article 57.2.3, no account shall be taken of any part of a day which is not a working day.

58. **When votes by proxy valid though authority revoked**

A vote given or poll demanded by a proxy or a duly authorised representative of a corporation shall be valid even though the authority of the person voting or demanding a poll has previously terminated unless notice in writing of the termination was received by the Company:

58.1 (in the case of a duly authorised representative of a corporation) at the office;

58.2 (where the appointment of the proxy was made in hard copy form) at the office (or such other place as is specified for the receipt of appointments of proxy in hard copy form); or

58.3 (where the appointment of the proxy was made by electronic means or by means of a website) at the address (as defined in article 57.2.1), in each case, by the relevant time (as defined in article 57.2.3).

59. **Corporate representatives**

59.1 A shareholder which is a corporation may, by resolution of its directors or other governing body, authorise such person or persons as it thinks fit to act as its representative or representatives at any meeting of the Company or at any separate meeting of the holders of any class of shares. The provisions of the Companies Acts shall apply to determine the powers that may be exercised at any such meeting by any person or persons so authorised.

59.2 The corporation shall, for the purposes of these articles, be deemed to be present in person at any such meeting if any person or persons so authorised is or are present at it, and all references to attendance and voting in person shall be construed accordingly.

59.3 A director, the secretary or some person authorised for the purpose by the secretary may require any representative to produce a certified copy of the resolution so authorising him before permitting him to exercise his powers.

60. Objections and validity of votes

- 60.1 No objection shall be raised to the qualification of any voter, or to the counting of, or failure to count, any vote, except at the meeting or adjourned meeting at which the vote objected to is tendered or at which the error occurs. Any objection made in due time shall be referred to the chairman of the meeting and shall only vitiate the result of the voting if, in the opinion of the chairman of the meeting, it is of sufficient magnitude to affect the decision of the meeting. The decision of the chairman of the meeting shall be final and conclusive.
- 60.2 The Company shall not be obliged to check that any proxy or corporate representative exercises the votes of the appointing shareholder, either at all or in accordance with the voting instructions given.
- 60.3 No vote at any general meeting of the Company shall be declared or deemed invalid by virtue solely of any failure by any proxy or corporate representative to vote in accordance with the voting instructions given to him by the appointing shareholder.

61. Amendments to resolutions

- 61.1 No amendment to a special resolution (other than a clerical amendment to correct a patent error) may be considered in any circumstances.
- 61.2 No amendment to an ordinary resolution (other than a clerical amendment to correct a patent error) may be considered unless either:
- 61.2.1 at least two working days' prior written notice of the amendment has been received by the Company; or
- 61.2.2 the chairman of the meeting agrees otherwise.
- 61.3 If any amendment proposed to any resolution under consideration is ruled out of order by the chairman of the meeting, the proceedings on the substantive resolution shall not be invalidated by any error in such ruling.

62. Confidential information

No shareholder present at a general meeting, whether in person, by proxy or by representative, shall be entitled to require disclosure of or any information about any detail of the Company's trading, or that may relate to the conduct of the business of the Company, if the board decides that it is in the interests of the Company to keep that information confidential.

CLASS MEETINGS

63. Procedure

- The provisions of these articles relating to general meetings of the Company or to the proceedings at general meetings shall apply to any separate meeting of the holders of any class of shares, except that:
- 63.1 no shareholder, other than a director, shall be entitled to notice of, or to attend, any such meeting unless he is a holder of shares of that class;

- 63.2 the quorum at any such meeting (other than an adjourned meeting) shall be two persons present in person or by proxy holding or representing by proxy at least one-third in nominal value of the shares of that class (excluding any shares of that class held as treasury shares);
- 63.3 the quorum at any adjourned meeting shall be one person holding shares of that class who is present in person or by proxy; and
- 63.4 a poll may be demanded by any person holding shares of that class who is present in person or by proxy and entitled to vote at the meeting. On a poll, every shareholder who is present in person or by proxy shall have one vote for every share of that class he holds.

DISCLOSURE OF INTERESTS IN SHARES

64. Sanctions for non-disclosure

- 64.1 Where a shareholder, or any other person appearing to be interested in shares held by that shareholder, has:
- 64.1.1 been issued with a notice pursuant to section 793 of the Act; and
 - 64.1.2 failed in relation to any shares (“**default shares**”, which expression shall include any additional shares which are issued in respect of such default shares) to give the Company the information required by that notice within the prescribed period from the date of service of the notice,
- then, unless the board otherwise determines, the sanctions set out in articles 64.2 and 64.3 shall apply.
- 64.2 The shareholder shall not be entitled in respect of the default shares and any other shares held by him to be present or to vote (either in person or by representative or proxy) at any general meeting or at any separate meeting of the holders of any class of shares, or on any poll, or to exercise any other right conferred on shareholders in relation to any such meeting or poll. The same restrictions shall apply to any transferee to whom any of such default shares are transferred, unless such transfer is an excepted transfer (as defined in article 68).
- 64.3 Where the default shares represent at least 0.25 per cent in nominal value of the shares of their class (excluding any shares of that class held as treasury shares):
- 64.3.1 any dividend or other monies payable in respect of the default shares shall be withheld by the Company, which shall not have any obligation to pay interest on it, and the shareholder shall not be entitled to elect, pursuant to articles 134 or 135, to receive shares instead of that dividend; and
 - 64.3.2 save for an excepted transfer (as defined in article 68) and subject to the requirements of the relevant system in relation to shares in uncertificated form, no transfer of a default share shall be registered unless:
 - 64.3.2.1 the shareholder is not himself in default as regards supplying the information required; and
 - 64.3.2.2 the shareholder proves to the satisfaction of the board that no person in default as regards supplying such information is interested in any of the shares which are the subject of the transfer.

65. Cessation of sanctions

- 65.1 Where the sanctions under article 64 apply in relation to any shares, they shall cease to have effect seven days following the earlier of:
- 65.1.1 receipt by the Company of notice that the shares have been transferred by means of an excepted transfer; or
 - 65.1.2 receipt by the Company of the information required by the notice issued pursuant to section 793 of the Act.
- 65.2 The board may at any time give notice cancelling or suspending for a stated period the operation of the sanctions under article 64 in whole or in part.

66. Section 793 notices

- 66.1 Any notice issued pursuant to section 793 of the Act may treat certificated and uncertificated shares of a holder as separate holdings and either apply only to certificated shares or to uncertificated shares or make different provision for certificated and uncertificated shares.
- 66.2 Where, on the basis of information obtained from a shareholder in respect of any share held by him, the Company issues a notice pursuant to section 793 of the Act to any other person, it shall, at the same time, send a copy of the notice to the shareholder. The accidental omission to do so, or the non-receipt by the shareholder of the copy, shall not invalidate or otherwise affect the application of article 64.

67. Approved depositaries

- 67.1 Where a person who appears to be interested in shares has been served with a notice pursuant to section 793 of the Act and the shares in which he appears to be interested are held by an approved depository, the provisions of articles 64 to 66 (inclusive) shall be treated as applying only to the shares which are held by the approved depository in which that person appears to be interested and not (so far as that person's apparent interest is concerned) to any other shares held by the approved depository.
- 67.2 While the shareholder on which a notice pursuant to section 793 of the Act is served is an approved depository, the obligations of the approved depository as a shareholder will be limited to disclosing to the Company any information relating to a person who appears to be interested in the shares held by it which has been recorded by it in accordance with the arrangement under which it was appointed as an approved depository.

68. Disclosure of interests - definitions

For the purposes of articles 64 to 67 (inclusive):

- 68.1 a person, other than the holder of a share, shall be treated as appearing to be interested in that share if:
- 68.1.1 the holder has informed the Company that the person is, or may be, so interested; or
 - 68.1.2 the Company (after taking account of any information obtained from the holder or, pursuant to a notice under section 793 of the Act, from anyone else) knows or has reasonable cause to believe that the person is, or may be, so interested;

- 68.2 **“interested”** shall be construed in the same way as it is construed for the purpose of section 793 of the Act;
- 68.3 reference to a person having failed to give the Company the information required by a notice, or being in default as regards supplying such information, includes reference to his having failed or refused to give all or any part of it and reference to his having given information which he knows to be false in a material particular or having recklessly given information which is false in a material particular;
- 68.4 the **“prescribed period”** means 14 days;
- 68.5 an **“excepted transfer”** means, in relation to any shares held by a shareholder:
- 68.5.1 a transfer pursuant to the acceptance of a takeover offer for the Company (within the meaning of the Act);
- 68.5.2 a transfer as a result of a sale made through a recognised investment exchange; or
- 68.5.3 a transfer which is shown to the satisfaction of the board to be made as a result of a sale of the whole of the beneficial interest in the shares to a person who is unconnected with the shareholder and with any other person appearing to be interested in the shares.

69. Section 794

Nothing contained in these articles shall limit the powers of the Company under section 794 of the Act.

NUMBER OF DIRECTORS

70. Number of directors

Unless and until otherwise determined by the Company by ordinary resolution there shall be no maximum number of directors, but the number of directors shall not be less than two.

ALTERNATE DIRECTORS

71. Appointment

- 71.1 Any director (other than an alternate director) may, by notice sent to or received at the office or at an address specified by the Company for the purpose of communication by electronic means, or in any other manner approved by the board, appoint any other director or any other person who is approved by the board and is willing to act to be his alternate. No appointment of an alternate director who is not already a director shall be effective until his consent to act as a director has been received at the office or at an address specified by the Company for the purpose of communication by electronic means and his appointment has been approved by the board.
- 71.2 An alternate director shall not be required to hold any shares.

72. Revocation of appointment

- 72.1 A director may, at any time, by notice sent to or received at the office or at an address specified by the Company for the purpose of communication by electronic means, revoke the appointment of his alternate director and, subject to the provisions of article 71, appoint another person in his place.

- 72.2 If a director ceases to hold the office of director or if he dies, the appointment of his alternate director shall then also cease. However, if any director retires but is reappointed at the meeting at which such retirement takes effect, any valid appointment of an alternate director which was in force immediately before his retirement shall continue to operate after his reappointment as if he had not so retired.
- 72.3 The appointment of an alternate director shall cease on the happening of any event which, if he was a director otherwise appointed, would cause him to vacate office.
- 73. Participation in board meetings**
- 73.1 Every alternate director shall (subject to him giving to the Company an address at which notices may be served on him) be entitled to receive notice of all meetings of the board and all committees of which his appointor is a member.
- 73.2 In the absence from such meetings of his appointor, an alternate director shall be entitled to attend and vote at such meetings and to exercise all the powers, rights, duties and authorities of his appointor.
- 73.3 A director acting as alternate director shall have, in addition to his own vote, a separate vote at board and committee meetings for each director for whom he acts as alternate director; however, he shall count as only one director for the purpose of determining whether a quorum is present.
- 74. Responsibility**
- Every person acting as an alternate director shall be deemed to be an officer of the Company, shall alone be responsible for his own acts and defaults, and shall not be deemed to be the agent of his appointor.
- 75. Remuneration and expenses**
- An alternate director shall not be entitled as against the Company to any fees for his services as an alternate. An alternate director shall be paid by the Company such expenses as might properly have been repaid to him if he had been a director.

POWERS OF THE BOARD

- 76. Powers of the board**
- 76.1 Subject to these articles and to any directions given by special resolution of the Company, the business of the Company shall be managed by the board which may exercise all the powers of the Company whether relating to the management of the business or not.
- 76.2 No alteration of these articles and no special resolution of the Company shall invalidate any prior act of the board which would have been valid if such alteration had not been made or such special resolution had not been passed.
- 76.3 The provisions contained elsewhere in these articles as to any specific power of the board shall not be deemed to limit the general powers given by this article 76.

77. Powers of directors if less than minimum required number

77.1 If the number of directors is less than the minimum for the time being prescribed by these articles, the remaining director or directors shall only act for the purpose of appointing an additional director or directors to make up such minimum or to convene a general meeting of the Company for the purpose of making such appointment. If there is no director or if no director or directors are able or willing to act, then any two shareholders may summon a general meeting for the purpose of appointing directors.

77.2 Any additional director appointed by the remaining director or directors shall (subject to the provisions of these articles and unless he is re-elected during such meeting) hold office only until the dissolution of the annual general meeting of the Company next following such appointment.

78. Exercise of voting rights

The board may exercise or cause to be exercised the voting rights conferred by shares in any other company held or owned by the Company, or any power of appointment to be exercised by the Company, in such manner and in all respects as it thinks fit (including the exercise of the voting rights or power of appointment in favour of the appointment of any director as a director or other officer or employee of such company or in favour of the payment of remuneration to the directors, officers or employees of such company).

79. Corporate shareholders

The board may at any time require a corporate shareholder to furnish any information, supported (if the board so requires) by a statutory declaration, which it may consider necessary for the purpose of determining whether or not such shareholder is a close company within the meaning of section 439 of the Corporation Tax Act 2010.

80. Provision for employees on cessation or transfer of business

The board may resolve to exercise any power conferred on the Company by the Companies Acts to make provision for the benefit of any person employed or formerly employed by the Company or any of its subsidiaries in connection with the cessation or the transfer to any person of the whole or part of the undertaking of the Company or that subsidiary.

81. Change of name

The Company may change its name by resolution of the board.

82. Overseas register

Subject to the provisions of the Companies Acts, the board may exercise the powers conferred on the Company with regard to the keeping of an overseas or local or other register and may make and vary such regulations as it thinks fit in respect of the keeping of any such register.

83. Borrowing powers

83.1 Subject to the provisions of the Companies Acts, the board may exercise all the powers of the Company:

83.1.1 to borrow money;

- 83.1.2 to mortgage or charge all or any part of the undertaking, property and assets (present or future) and uncalled share capital of the Company;
- 83.1.3 to issue debentures and other securities; and
- 83.1.4 to give security, either outright or as collateral security for any debt, liability or obligation of the Company or of any third party.
- 83.2 The board may exercise all the powers of the Company to borrow or raise money upon or by the issue or sale of any debentures or securities on such terms as to time of repayment, rate of interest, price of issue or sale, payment of premium or bonus upon redemption or repayment or otherwise as it may determine, including (subject to the provisions of the Companies Acts) a right for the holders of debentures or securities to exchange the same for shares of any class.
- 83.3 The board may confer upon any mortgagees or persons in whom any debenture or security is vested, such rights and powers as it thinks necessary or expedient. It may vest any property of the Company in trustees for the purpose of securing any monies so borrowed or raised; and confer upon the trustees or any receiver to be appointed by them or by any debenture holder such rights and powers as the board may think necessary or expedient in relation to:
- 83.3.1 the undertaking or property of the Company, or its management or realisation; or
- 83.3.2 the making, receiving or enforcing of calls on the shareholders in respect of unpaid share capital, and otherwise, and may make and issue debentures to trustees for the purpose of further security, and any such trustees may be remunerated.
- 83.4 The board may give security for the payment of any monies payable by the Company in the same manner as for the payment of monies borrowed or raised, in which case such amount shall be deemed to be included as part of the borrowings for the purposes of article 84.
- 84. Limit to borrowing powers**
- 84.1 The board shall restrict the borrowings of the Company and shall exercise all voting and other rights or powers of control exercisable by the Company in relation to its subsidiary undertakings (if any) so as to procure (but as regards such subsidiary undertakings, only in so far as it can procure by such exercise) that the aggregate principal amount outstanding in respect of all borrowings by the group (exclusive of any borrowings which are owed by one group company to another and after deducting cash deposited) shall not, at any time, without an ordinary resolution of the Company, exceed a sum equal to two times the adjusted total of capital and reserves (or such higher limit as may be fixed from time to time by ordinary resolution).
- 84.2 No lender or other person dealing with the Company shall be concerned to see or enquire whether the limit imposed by this article 84 is observed. No debt incurred or security given in respect of borrowings in excess of the limit imposed by this article 84 shall be invalid or ineffectual, except in the case of express notice to the lender or recipient of the security at the time when the debt was incurred or security given that the limit had been or would be exceeded.

84.3 A report or certificate by the auditors as to the amount of the adjusted total of capital and reserves and as to the aggregate amount of borrowings for the purposes of this article 84, or to the effect that the limit imposed by this article 84 has not been or will not be exceeded at any particular time or times, shall be conclusive evidence of such amount or fact and binding on all concerned. Nevertheless, for the purposes of this article 84, the board may, at any time, act in reliance on a bona fide estimate of the amount of the adjusted total of capital and reserves, and if, as a result, the limit on borrowings set out in this article 84 is inadvertently exceeded, an amount borrowed equal to the excess may be disregarded until the expiration of 90 days after the date on which, by reason of a determination of the auditors or otherwise, the board became aware that such a situation has or may have arisen.

84.4 In this article 84:

84.4.1 **“adjusted total of capital and reserves”** means a sum equal to the aggregate of:

84.4.1.1 the amount paid up on the shares (including any shares held as treasury shares); and

84.4.1.2 the amounts standing to the credit of the reserves of the group (whether distributable or undistributable, and including retained earnings, share premium account, capital redemption reserve, revaluation reserve and unappropriated balance of grants (including investment grants)), after deducting any debit balance on retained earnings (other than any such debit balance arising only on consolidation);

all as shown in the latest balance sheet, but after:

84.4.1.3 making such adjustments as may be appropriate in respect of:

- (a) any variation in the amount paid up on the shares or the amount of the share premium account or the capital redemption reserve of the Company since the date of the latest balance sheet; and so that, for this purpose, if any proposed allotment of shares by the Company for cash has been underwritten or agreed to be subscribed, then such shares shall be deemed to have been allotted, and the amount (including the premium) of the subscription monies payable in respect of them (not being monies payable later than six months after the date of allotment) shall be deemed to have been paid up to the extent so underwritten or agreed to be subscribed on the date when the issue of such shares was underwritten or agreed to be subscribed (or, in the event that such underwriting or agreement to subscribe was conditional, the date on which it became unconditional); and
- (b) any variation in the interests of the Company in its subsidiary undertakings since the date of the latest balance sheet;

84.4.1.4 excluding (so far as not already excluded):

- (a) amounts attributable to minority interests in group companies; and
- (b) any sum set aside for taxation (other than deferred taxation);

- 84.4.1.5 deducting the amount of any distribution out of profits accrued up to and including the date of the latest balance sheet declared, recommended or made by any group company to a person other than a group company (to the extent not provided for in the latest balance sheet); and
- 84.4.1.6 making such other adjustments (if any) as the board may consider appropriate or necessary and as are approved by the auditors;
- 84.4.2 **“borrowings”** shall be deemed to include the following (except in so far as otherwise taken into account):
- 84.4.2.1 the principal amount of any debenture (whether secured or unsecured) of any group company owned otherwise than by any group company;
- 84.4.2.2 the nominal amount of any share (not being equity share capital) of any group company which is not owned within the group;
- 84.4.2.3 the nominal amount of any share and the principal amount of any borrowings or other indebtedness, the redemption or repayment of which is guaranteed or secured or is the subject of an indemnity given by any group company, but where the beneficial interest in the redemption or repayment of which is not owned within the group;
- 84.4.2.4 the outstanding amount raised by acceptances under any acceptance credit or bills facility opened on behalf of and in favour of any group company by any bank or accepting house, not being acceptances of, or acceptance credits in relation to, trade bills for purchases of goods or services in the ordinary course of business and outstanding for six months or less;
- 84.4.2.5 any fixed or minimum premium payable on final repayment of any borrowing or deemed borrowing (but so that any premium payable on final repayment of an amount not to be taken into account as borrowings shall not be taken into account); and
- 84.4.2.6 amounts raised under any transaction (including, without limitation, forward sale or purchase agreements) having the commercial effect of borrowings entered into to enable the financing of operations or capital requirements,
- but shall be deemed not to include:
- 84.4.2.7 borrowings made by a group company for the purpose of repaying the whole or any part of borrowings falling to be taken into account for the purposes of this article 84 within six months of being first borrowed, pending their application for such purpose within such period;
- 84.4.2.8 borrowings made by a group company for the purpose of financing any contract in respect of which any part of the price receivable under such contract by that or another group company is guaranteed or insured by any government, governmental agency or body, or by a person (not being a group company) carrying on the business of providing credit insurance, up to the amount not exceeding that part of the price receivable under the contract which is so guaranteed or insured;
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- 84.4.2.9 such proportion of the borrowings of any group company which is not a wholly-owned subsidiary of the Company as that part of its paid up equity share capital which is not beneficially owned, directly or indirectly, by a group company bears to the whole of its paid up equity share capital (but an equivalent proportion of borrowings from one such non wholly-owned subsidiary by any other group company which would otherwise fall to be excluded shall nevertheless be included);
- 84.4.2.10 borrowings of a company which was not a subsidiary undertaking at the date of the latest balance sheet, to the extent that the borrowings do not exceed its borrowings outstanding on the date when it became a group company;
- 84.4.2.11 any sum advanced or paid to any group company (or its agents or nominees) by customers of any group company as unexpended customer receipts or progress payments pursuant to any contract between such customer and a group company;
- 84.4.2.12 the amount of any monies held by any group company whether on deposit or current account or otherwise in connection with any scheme for the benefit of employees or their dependants; and
- 84.4.2.13 sums which fall to be treated as borrowings by any group company by reason only of any current statement of standard accounting practice or other accounting principle or practice;
- 84.4.3 **“cash deposited”** means an amount equal to the aggregate for the time being outstanding of all cash deposits or balances on each account of the group (whether current or otherwise) with any bank (not being a group company), the realisable value of certificates of deposit and securities of governments and companies or other readily realisable deposits owned by any group company, except that (in the case of any such items owned by a group company which is not a wholly-owned subsidiary) only that portion which is equal to the proportion of that company’s paid up equity share capital which is beneficially owned, directly or indirectly, by a group company shall be taken into account);
- 84.4.4 **“group”** means the Company and its subsidiary undertakings from time to time;
- 84.4.5 **“group company”** means any company in the group;
- 84.4.6 **“latest balance sheet”** means the consolidated balance sheet dealing with the state of affairs of the Company and its subsidiary undertakings comprised in the latest group accounts prepared and approved by the board and on which the auditors have made their report pursuant to the Companies Acts.
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- 84.5 When the aggregate amount of borrowings required to be taken into account for the purposes of this article 84 on any particular day is being ascertained:
- 84.5.1 any of such monies denominated or repayable in a currency other than sterling shall be converted for the purpose of calculating the sterling equivalent either:
- 84.5.1.1 at the rate of exchange used for the conversion of that currency in the latest balance sheet;
- 84.5.1.2 if no rate was so used, at the middle market rate prevailing in London at the close of business on the date of that balance sheet; or
- 84.5.1.3 where the repayment of such monies is expressly covered by a forward purchase contract, currency option, back-to-back loan, swap or other arrangement taken out or entered into to reduce the risk associated with fluctuations in exchange rates, at the rate of exchange specified in that document,
- but, if the amount in sterling resulting from conversion at that rate would be greater than that resulting from conversion at the middle market rate prevailing in London at the close of business on the working day immediately preceding the day on which the calculation falls to be made, the latter rate shall apply instead;
- 84.5.2 if, under the terms of any borrowing, the amount of money that would be required to discharge its principal amount in full if it fell to be repaid (at the option of the borrower or by reason of default) on such date is less than the amount that would otherwise be taken into account in respect of that borrowing for the purpose of this article 84, the amount of the borrowing to be taken into account shall be the lesser amount.

DELEGATION OF DIRECTORS' POWERS

85. Powers of executive directors

The board may from time to time delegate or entrust to and confer upon any director holding executive office (including a managing director) such of its powers, authorities and discretions (with power to sub-delegate) for such time, on such terms and subject to such conditions as it thinks fit. It may confer such powers either collaterally with, or to the exclusion of and in substitution for, all or any of the powers of the board in that respect, and may from time to time revoke, withdraw, alter or vary all or any of such powers.

86. Delegation to committees

- 86.1 The board may delegate any of its powers, authorities and discretions (with power to sub-delegate) (including powers or discretions relating to the remuneration of or benefits given to the directors) for such time, on such terms and subject to such conditions as it thinks fit to any committee consisting of one or more directors and (if thought fit) one or more other persons (provided that a majority of the members of a committee shall be directors or alternate directors and no resolution of a committee shall be effective unless a majority of those present when it was passed are directors or alternate directors). The board may confer such powers either collaterally with, or to the exclusion of and in substitution for, all or any of the powers of the board in that respect, and may from time to time revoke, withdraw, alter or vary all or any of such powers, and discharge any such committee in whole or in part.

86.2 All committees shall, in the exercise of the powers delegated to them and in the transaction of business, conform to any mode of proceedings and regulations which may be prescribed by the board. Subject to that, the proceedings of any committee shall be governed by such of these articles as regulate the proceedings of the board, so far as they are capable of applying.

86.3 References in these articles to committees include sub-committees permitted under these articles.

87. Local and divisional management

87.1 The board may establish any local or divisional boards or agencies for managing any of the affairs of the Company in any locality in relation to any business, either in the United Kingdom or elsewhere; and it may appoint any person to be a member of such local or divisional board, or a manager or agent, and may fix his remuneration.

87.2 The board may delegate to any local or divisional board, manager or agent so appointed any of its powers, authorities and discretions (with power to sub-delegate) and may authorise the members for the time being of any such local or divisional board, or any of them, to fill up any vacancies and to act even though there are vacancies; and any such appointment or delegation may be made for such time, on such terms and subject to such conditions as the board thinks fit. The board may confer such powers either collaterally with, or to the exclusion of and in substitution for, all or any of the powers of the board in that respect, and may from time to time revoke, withdraw, alter or vary all or any of such powers.

87.3 Subject to any terms and conditions expressly prescribed by the board, the proceedings of any local or divisional board or agency with two or more members shall be governed by such of these articles as regulate the proceedings of the board, so far as they are capable of applying.

88. Power of attorney

The board may, by power of attorney or otherwise, appoint any person or persons to be the agent of the Company and may delegate to any such person or persons any of its powers, authorities and discretions (with power to sub-delegate), in each case for such purposes and for such time, on such terms (including, but not limited to, remuneration and the protection and convenience of persons dealing with the agent) and subject to such conditions as it thinks fit. The board may confer such powers either collaterally with, or to the exclusion of and in substitution for, all or any of the powers of the board in that respect, and may from time to time revoke, withdraw, alter or vary all or any of such powers.

89. Associate directors

The board may appoint any person (not being a director) to any office or employment having a designation or title including the word “director”, or attach to any existing office or employment with the Company such designation or title, and may terminate any such appointment or the use of such designation or title. The inclusion of the word “director” in the designation or title of any such office or employment shall not imply that such person is, or is deemed to be, or is empowered in any respect to act as, a director of the Company for any of the purposes of the Companies Acts or these articles.

APPOINTMENT AND RETIREMENT OF DIRECTORS

90. Power of the Company to appoint directors

Subject to the provisions of the Companies Acts and of these articles, the Company may by ordinary resolution appoint any person who is willing to act as a director, either to fill a vacancy or as an addition to the existing board.

91. Power of the board to appoint directors

- 91.1 Without prejudice to the power of the Company to appoint any person to be a director pursuant to these articles but subject to the provisions of the Companies Acts and of these articles, the board may, at any time, appoint any person who is willing to act as a director, either to fill a vacancy or as an addition to the existing board, but so that the total number of directors shall not exceed any maximum number fixed in accordance with these articles.
- 91.2 Any director so appointed shall, subject to the provisions of these articles, hold office only until the dissolution of the annual general meeting of the Company next following such appointment (unless he is re-elected during such meeting), save that if he was appointed after notice of such annual general meeting was given, he shall hold office until the dissolution of the next following annual general meeting (unless he is re-elected during such meeting).

92. Appointment of executive directors

- 92.1 Subject to the provisions of the Companies Acts, the board may from time to time appoint one or more of its body to hold any employment or executive office (including that of chief executive and managing director) for such period and on such terms as the board may determine; and (without prejudice to any claim for damages for breach of any contract of service between the director and the Company and to any claim which may arise by operation of law) the board may revoke or terminate any such appointment.
- 92.2 A chief executive, managing director or other executive director who ceases to hold the office of director from any cause shall automatically cease to be a managing or executive director immediately.

93. Eligibility of new directors

- 93.1 No person, other than a director retiring (by rotation or otherwise), shall be eligible for appointment or reappointment as a director at any general meeting, unless:
- 93.1.1 he is recommended by the board; or
- 93.1.2 not less than seven nor more than 42 days before the date appointed for the meeting, notice by a shareholder (other than the person to be proposed) entitled to attend and vote at the meeting of the intention to propose that person for appointment or reappointment, stating the particulars which would, if he were so appointed or reappointed, be required to be included in the Company's register of directors, together with notice given by that person of his willingness to be appointed or reappointed, is given to the Company.
- 93.2 A director shall not be required to hold any shares.

94. Voting on resolution for appointment

A resolution for the appointment of two or more persons as directors by a single resolution shall be void unless an ordinary resolution that it shall be so proposed has first been agreed to by the meeting without any vote being given against it.

95. Retirement by rotation

- 95.1 At each annual general meeting of the Company, one-third of the directors who are subject to retirement by rotation or, if their number is not three or a multiple of three, the number nearest to but not exceeding one-third shall retire from office but so that, if there are fewer than three directors who are subject to retirement by rotation, one shall retire from office.

95.2 In addition to the directors required to retire by rotation under article 95.1 (as determined in accordance with article 96), there shall also be required to retire by rotation any director who at an annual general meeting of the Company shall have been a director at each of the preceding two annual general meetings of the Company, provided that:

95.2.1 he was not appointed or reappointed at either such annual general meeting; and

95.2.2 he has not otherwise ceased to be a director (whether by resignation, retirement, removal or otherwise) and been reappointed by general meeting of the Company at or since either such annual general meeting.

96. Directors subject to retirement

96.1 Subject to the provisions of the Companies Acts and of these articles, the directors subject to retire by rotation at each annual general meeting shall:

96.1.1 exclude any director appointed by the board pursuant to article 91.1 after the dissolution of the preceding annual general meeting; and

96.1.2 include, so far as necessary to obtain the number required, first, any director who wishes to retire and not offer himself for re-election, and secondly, those directors who have been longest in office since their last appointment or reappointment. As between two or more directors who have been in office an equal length of time, the director to retire shall, in default of agreement between them, be determined by lot.

96.2 The directors to retire on each occasion (both as to number and identity) shall be determined by the composition of the board at the start of business on the date of the notice convening the annual general meeting, even though the number or identity of the directors after that time but before the close of the meeting may change.

97. Position of retiring director

A director who retires at an annual general meeting may, if willing to act, be reappointed. If he is not reappointed or is not deemed to have been reappointed, he shall retain office until the meeting appoints someone in his place or, if it does not do so, until the end of the meeting.

98. Deemed reappointment

At any general meeting at which a director retires by rotation, the Company may fill the vacancy. If it does not do so, the retiring director shall, if willing, be deemed to have been reappointed, unless it is expressly resolved not to fill the vacancy or a resolution for the reappointment of the director is put to the vote of the meeting and lost.

REMOVAL AND DISQUALIFICATION OF DIRECTORS

99. Removal by ordinary resolution

In addition to any power of removal conferred by the Companies Acts and without prejudice to any claim for damages which he may have for breach of any contract of service between him and the Company and to any claim which may arise by operation of law, the Company may by ordinary resolution remove any director before the expiration of his period of office; and, subject to the provisions of the Companies Acts and of these articles, the Company may by ordinary resolution appoint another person who is willing to act to be a director in his place. Any person so appointed shall be treated, for the purposes of determining the time at which he or any other director is to retire, as if he had become a director on the day on which the person in whose place he is appointed was last appointed or reappointed a director.

100. Vacation of office by director

- 100.1 Without prejudice to the provisions for retirement by rotation contained in these articles, the office of a director shall be vacated if:
- 100.1.1 he resigns by notice sent to or received at the office or at an address specified by the Company for the purposes of communication by electronic means or tendered at a board meeting;
 - 100.1.2 he ceases to be a director by virtue of any provision of the Companies Acts, is removed from office pursuant to these articles or becomes prohibited by law from being a director;
 - 100.1.3 he becomes bankrupt or he makes any arrangement or composition with his creditors generally;
 - 100.1.4 a registered medical practitioner who is treating him gives a written opinion to the Company stating that he has become physically or mentally incapable of acting as a director and may remain so for more than three months and the board resolves that his office be vacated;
 - 100.1.5 both he and his alternate director (if any) appointed pursuant to the provisions of these articles have been absent, without the permission of the board, from board meetings for six consecutive months, and the board resolves that his office be vacated;
 - 100.1.6 his contract for his services as a director expires or is terminated for any reason and is neither renewed nor a new contract granted within 14 days; or
 - 100.1.7 (without prejudice to any claim for damages which he may have for breach of any contract of service between him and the Company and to any claim which may arise by operation of law) he is removed from office by a notice addressed to him at his last known address and signed by all his co-directors. An alternate director appointed by the director to whom such notice is being given and acting in his capacity as such shall not be required to sign such notice; and a director and any alternate director appointed by him and acting in his capacity as such shall constitute a single director for this purpose, so that the signature of either of them on such notice shall be sufficient.
- 100.2 If the office of a director is vacated for any reason, he shall cease to be a member of any committee.
- 100.3 A resolution of the board declaring a director to have vacated office under the terms of this article 100 shall be conclusive as to the fact and grounds of vacation stated in the resolution.
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REMUNERATION OF NON-EXECUTIVE DIRECTORS

101. Ordinary remuneration

- 101.1 Unless otherwise determined by the Company by ordinary resolution, a director (other than an alternate director) who does not hold executive office shall be paid for his services as a director fees at such rate (not exceeding £125,000 per annum) as the board may decide.
- 101.2 The maximum aggregate level of fees stipulated by or in accordance with article 101.1 shall be increased on each anniversary of the date of the adoption of these articles (or, if appropriate, the date upon which the maximum was last fixed by ordinary resolution in accordance with article 101.1) by the same percentage increase as the percentage increase in the General Index of Retail Prices for all items (or such other comparable index as may be substituted for it from time to time before such anniversary) in the 12 months immediately preceding such date.
- 101.3 Any fee payable pursuant to this article 101 shall be deemed to accrue from day to day and shall be distinct from any salary, remuneration or other amounts payable to a director pursuant to other provisions of these articles.

102. Additional remuneration

Any director who does not hold executive office and who serves on any committee or who devotes special attention to the business of the Company, or who otherwise performs any services on behalf of the Company or its business which, in the opinion of the board, are outside the scope of the ordinary duties of a director, may (without prejudice to the provisions of article 101) be paid such reasonable additional remuneration for such services, whether by way of additional fees, salary, percentage of profits or otherwise, as the board may from time to time determine.

REMUNERATION OF EXECUTIVE DIRECTORS

103. Remuneration of executive directors

The salary or remuneration of any director appointed to hold any employment or executive office in accordance with the provisions of these articles shall be such as the board may from time to time determine, and may be either a fixed sum of money, or may altogether or in part be governed by business done or profits made or otherwise determined by the board.

DIRECTORS' EXPENSES

104. Directors' expenses

Each director shall be entitled to be repaid all reasonable travelling, hotel and other expenses properly incurred by him in the performance of his duties as director, including any expenses incurred in attending meetings of the board or of any committees or general meetings or separate meetings of the holders of any class of shares or debentures of the Company.

DIRECTORS' INTERESTS

105. Directors' permitted interests and voting

- 105.1 Subject to compliance with article 107, a director, despite his office:
- 105.1.1 may enter into or otherwise be interested in any transaction or arrangement with the Company or in which the Company is otherwise (directly or indirectly) interested;

- 105.1.2 (except that of auditor or auditor of a subsidiary of the Company) may hold any other office or place of profit under the Company in conjunction with the office of director and may act by himself or through his firm in a professional capacity to the Company and he or his firm shall be entitled to remuneration for professional services as if he were not a director;
- 105.1.3 may be a director or other officer of, or employed by, or a party to any transaction or arrangement with, or otherwise interested in, any company promoted by the Company or in which the Company is otherwise (directly or indirectly) interested or as regards which the Company has any powers of appointment; and
- 105.1.4 shall not be liable to account to the Company for any profit, remuneration or other benefit realised by any such office, employment, transaction or arrangement and no such transaction or arrangement shall be avoided on the grounds of any such interest or benefit.
- 105.2 Save as provided in this article 105, a director shall not vote on, or be counted in the quorum in relation to, any resolution of the directors concerning any contract, transaction or arrangement or any other proposal in which he (or any person connected with him as detailed in article 105.8) is interested.
- 105.3 Subject to the provisions of the Companies Acts, a director shall (in the absence of some other interest than is set out below) be entitled to vote, and be counted in the quorum, in respect of any resolution concerning any contract, transaction or arrangement or any other proposal:
- 105.3.1 in which he has an interest of which he is not aware;
- 105.3.2 in which he has an interest which cannot reasonably be regarded as likely to give rise to a conflict of interest;
- 105.3.3 in which he has an interest only by virtue of interests in shares, debentures or other securities of the Company, or by reason of any other interest in or through the Company;
- 105.3.4 which involves the giving of any guarantee, security or indemnity in respect of:
- 105.3.4.1 money lent or obligations incurred by him or by any other person at the request of or for the benefit of the Company or any of its subsidiary undertakings; or
- 105.3.4.2 a debt or obligation of the Company or any of its subsidiary undertakings for which he himself has assumed responsibility in whole or in part, either alone or jointly with others, under a guarantee or indemnity or by the giving of security;
- 105.3.5 concerning an offer of shares or debentures or other securities of or by the Company or any of its subsidiary undertakings in which offer he is or may be entitled to participate as a holder of securities; or in the underwriting or sub-underwriting of which the director is to participate;

- 105.3.6 concerning any other body corporate in which he (and any person connected with him) has a direct or indirect interest of any kind (including an interest by holding any position, or by holding an interest in shares, in that body corporate), provided that he (and any person connected with him) does not hold an interest in shares (within the meaning set out in sections 820 to 825 of the Act) representing one per cent or more of either any class of equity share capital, or the voting rights, in such body corporate (excluding any shares of that class, or any voting rights attached to shares, which are held as treasury shares);
- 105.3.7 relating to an arrangement for the benefit of the employees or former employees of the Company or any of its subsidiary undertakings which does not award him any privilege or benefit not generally awarded to the employees or former employees to whom such arrangement relates; or
- 105.3.8 concerning:
- 105.3.8.1 insurance which the Company proposes to maintain or purchase for the benefit of directors or for the benefit of persons including directors; or
 - 105.3.8.2 indemnities in favour of directors; or
 - 105.3.8.3 the funding of expenditure by one or more directors on defending proceedings against such director or them or doing anything to enable such director or directors to avoid incurring such expenditure.
- 105.4 Where proposals are under consideration concerning the appointment (including fixing or varying the terms of appointment or its termination) of two or more directors to offices or places of profit with the Company or any company in which the Company is interested, such proposals may be divided and a separate resolution considered in relation to each director. In such case, each of the directors concerned (if not otherwise debarred from voting under this article 105) shall be entitled to vote (and be counted in the quorum) in respect of each resolution, except that concerning his own appointment.
- 105.5 If any question arises at any meeting as to whether any interest of a director prevents him from voting or being counted in a quorum, and such question is not resolved by his voluntarily agreeing to abstain from voting or being counted in the quorum, such question shall be referred to the chairman of the meeting. The chairman of the meeting's ruling in relation to the director concerned (other than himself) shall be final and conclusive (except where it subsequently becomes apparent that the nature or extent of the interests of the director concerned have not been fairly disclosed).
- 105.6 If any question arises at any meeting as to whether any interest of the chairman of the meeting prevents him from voting or being counted in a quorum, and such question is not resolved by his voluntarily agreeing to abstain from voting or being counted in the quorum, such question shall be decided by resolution of the directors or committee members present at the meeting (excluding the chairman). The majority vote of the directors or committee members shall be final and conclusive (except where it subsequently becomes apparent that the nature or extent of the interests of the chairman of the meeting have not been fairly disclosed).
- 105.7 Subject to the provisions of the Companies Acts, the Company may by ordinary resolution suspend or relax the provisions of this article 105, either generally or in respect of any particular matter, or ratify any transaction not duly authorised by reason of a contravention of this article 105.

- 105.8 For the purposes of this article 105:
- 105.8.1 sections 252 to 255 of the Act shall be applied to determine whether a person is connected with a director;
 - 105.8.2 an interest of a person who is connected with a director shall be treated as an interest of the director;
 - 105.8.3 in relation to an alternate, an interest of his appointor shall be treated as an interest of the alternate, in addition to any interest which the alternate otherwise has; and
 - 105.8.4 without prejudice to article 105.8.3, the provisions of this article 105 shall apply to an alternate director as if he were a director otherwise appointed.

106. Authorisation of directors' conflicts of interest

106.1 For the purposes of this article 106 and article 107:

“Relevant Situation” means a situation or matter in which a director has a direct or indirect interest that conflicts, or possibly may conflict, with the interests of the Company (including, without limitation, in relation to the exploitation of any property, information or opportunity, whether or not the Company could take advantage of it) but excludes (i) any situation or matter which cannot reasonably be regarded as likely to give rise to a conflict of interest and (ii) any conflict of interest arising in relation to a transaction or arrangement with the Company;

“Interested Director” means, in relation to any Relevant Situation, any director interested in that Relevant Situation; and any reference to a conflict of interest includes a conflict of interest and duty and a conflict of duties.

106.2 The directors shall have the power to authorise any Relevant Situation on such terms as they determine. Such authorisation shall be effective only if:

106.2.1 any requirement as to the quorum at the meeting of the directors at which the Relevant Situation is considered is met without counting the Interested Director(s); and

106.2.2 any resolution authorising the Relevant Situation was agreed to without the Interested Director(s) voting or would have been agreed to if the votes of the Interested Director(s) had not been counted.

106.3 Any terms determined by the directors under article 106.2 may be imposed at the time of authorisation or may be imposed or varied subsequently and may include (without limitation):

106.3.1 whether the Interested Director(s) may vote (or be counted in the quorum at a meeting) in relation to any resolution relating to the Relevant Situation;

106.3.2 the exclusion of the Interested Director(s) from all information and discussion by the Company of the Relevant Situation; and

- 106.3.3 (without prejudice to the general obligations of confidentiality) the application to the Interested Director(s) of a strict duty of confidentiality to the Company for any confidential information of the Company in relation to the Relevant Situation.
- 106.4 An Interested Director must act in accordance with any terms determined by the directors under article 106.2.
- 106.5 Except as specified in article 106.2, any proposal made to the directors and any authorisation by the directors in relation to a Relevant Situation shall be dealt with in the same way as any other matter may be proposed to and resolved upon by the directors in accordance with the provisions of these articles.
- 106.6 Any authorisation of a Relevant Situation given by the directors under article 106.2 may provide that, where the Interested Director obtains (other than through his position as a director) information that is confidential to a third party, he will not be obliged to disclose it to the Company or to use it in relation to the Company's affairs in circumstances where to do so would amount to a breach of that confidence.
- 106.7 A director shall not, by reason of his holding office as a director (or of the fiduciary relationship established by holding that office), be liable to account to the Company for any remuneration, profit or other benefit resulting from any Relevant Situation authorised under article 106.2 and no contract shall be liable to be avoided on the grounds of any director having any type of interest authorised under article 106.2, nor shall the receipt of any such remuneration, profit or other benefit constitute a breach of his duty under section 176 of the Act.
- 107. Provisions applicable to declarations of interest**
- 107.1 An Interested Director shall declare the nature and extent of his interest in a Relevant Situation to the other directors.
- 107.2 A director who is in any way (directly or indirectly) interested in any proposed transaction or arrangement with the Company shall declare the nature and extent of his interest to the other directors.
- 107.3 A director who is in any way (directly or indirectly) interested in a transaction or arrangement that has been entered into by the Company shall declare the nature and extent of his interest to the other directors unless the interest has been declared under article 107.2.
- 107.4 The declaration of interest must (in the case of article 107.3) and may, but need not (in the case of article 107.1 or 107.2) be made:
- 107.4.1 at a meeting of the directors; or
- 107.4.2 by notice to the directors in accordance with section 184 or section 185 of the Act.
- 107.5 If a declaration of interest proves to be, or becomes, inaccurate or incomplete, a further declaration must be made.
- 107.6 Any declaration of interest required by article 107.1 must be made as soon as is reasonably practicable.

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- 107.7 Any declaration of interest required by article 107.2 must be made before the Company enters into the transaction or arrangement.
- 107.8 Any declaration of interest required by article 107.3 must be made as soon as is reasonably practicable. Failure to comply with this requirement does not affect the underlying duty to make the declaration.
- 107.9 A declaration in relation to an interest of which the director is not aware is not required. For this purpose, a director is treated as being aware of matters of which he ought reasonably to be aware.
- 107.10 A director need not declare an interest:
- 107.10.1 if it cannot reasonably be regarded as likely to give rise to a conflict of interest;
 - 107.10.2 if, or to the extent that, the other directors are already aware of it (and for this purpose the other directors are treated as aware of anything of which they ought reasonably to be aware); or
 - 107.10.3 if, or to the extent that, it concerns terms of his service contract that have been or are to be considered by a meeting of the directors or by a committee of the directors appointed for the purpose under the articles.

DIRECTORS' GRATUITIES AND BENEFITS

108. Directors' gratuities and benefits

- 108.1 The board may exercise all the powers of the Company to provide:
- 108.1.1 pensions or other retirement or superannuation benefits;
 - 108.1.2 death or disability benefits; or
 - 108.1.3 other allowances or gratuities,
- by insurance or otherwise, for any person who is, or has at any time been, a director of or employed by or in the service of the Company or any company which is a subsidiary company of the Company, or is allied to or associated with the Company or any such subsidiary, or any predecessor in business of the Company or any such subsidiary.
- 108.2 The board may also exercise the powers of the Company to extend these arrangements to any family member of such person (including a spouse, civil partner, former spouse or former civil partner) or any person who is, or was, dependent on him.
- 108.3 For such purpose, the board may establish, maintain, subscribe and contribute to any scheme, trust or fund and pay premiums. The board may procure any of these matters to be done by the Company, either alone or in conjunction with any other person.
- 108.4 Any director or former director shall be entitled to receive and retain for his own benefit any pension or other benefit provided under this article 108 and shall not be obliged to account for it to the Company.

109. Board meetings

Subject to the provisions of these articles, the board may meet for the despatch of business, adjourn and otherwise regulate its proceedings as it thinks fit.

110. Notice of board meetings

Any director may, and the secretary at the request of a director shall, summon a board meeting at any time by notice (which need not be in writing) served on the members of the board in accordance with the provisions of article 148. A director may waive his entitlement to notice of any meeting, either prospectively or retrospectively and any retrospective waiver shall not affect the validity of the meeting or of any business conducted at the meeting. A director will be treated as having waived his entitlement to notice unless he has supplied the Company with the information necessary to ensure that he receives notice of a meeting before it takes place.

111. Quorum

The quorum necessary for the transaction of business may be determined by the board and, until otherwise determined, shall be two directors. A duly convened meeting of the board at which a quorum is present shall be competent to exercise all or any of the authorities, powers and discretions for the time being vested in or exercisable by the board.

112. Chairman of the board

The board may appoint one of its body as chairman to preside at every board meeting at which he is present and one or more deputy chairmen, and determine the period for which he is or they are to hold office (and may at any time remove him or them from office). If no such chairman of the board or deputy chairman is elected, or if at any meeting neither the chairman of the board nor a deputy chairman is present within 15 minutes of the time appointed for commencement of the meeting, the directors and (in the absence of their appointors) alternate directors present shall choose one of their number to be chairman of such meeting. In the event of two or more deputy chairmen being present, the senior of them shall act as chairman of the meeting, seniority being determined by length of office since their last appointment or reappointment. As between two or more who have held office an equal length of time, the deputy chairman to act as chairman of the meeting shall be decided by those directors and (in the absence of their appointors) alternate directors present. Any chairman of the board or deputy chairman may also hold executive office in the Company.

113. Voting

Questions arising at any meeting shall be determined by a majority of votes. In the case of an equality of votes, the chairman of the meeting shall have a second or casting vote.

114. Participation by telephone

Provided that all persons participating in the meeting are able to hear and speak to each other throughout such meeting, any director, directors or alternate may validly participate in a meeting of the board or a committee through the medium of one or more conference telephones or similar form of communications equipment. A person so participating shall be deemed to be present in person at the meeting and shall accordingly be counted in a quorum and be entitled to vote. Subject to the provisions of the Companies Acts, all business

transacted in such manner by the board or a committee shall, for the purposes of these articles, be deemed to be validly and effectively transacted at a meeting of the board or a committee, even though fewer than two directors are physically present at the same place. Such a meeting shall be deemed to take place where the largest group of those participating is assembled or, if there is no such group, where the chairman of the meeting then is.

115. Resolution in writing

A resolution in writing signed by all the directors who are at the relevant time entitled to receive notice of a board meeting and who would be entitled to vote (and whose vote would have been counted) on the resolution at a board meeting (if that number is sufficient to constitute a quorum), or by all members of a committee, shall be as valid and effective for all purposes as a resolution duly passed at a meeting of the board (or committee, as the case may be). The resolution in writing may consist of several documents in the same form, each signed by one or more of the directors concerned or members of the relevant committee. Such a resolution need not be signed by an alternate director if it is signed by his appointor, and a resolution signed by an alternate need not also be signed by his appointor.

116. Validity of proceedings of the board or committee

All acts done by a meeting of the board, or of a committee, or by any person acting as a director, alternate director or member of a committee shall, even though it is afterwards discovered that:

116.1 there was some defect in the appointment of any person or persons acting as such; or

116.2 they or any of them were or was disqualified from holding office or not entitled to vote, or had in any way vacated their or his office, be as valid as if every such person had been duly appointed, and was duly qualified, and had continued to be a director, alternate or member of a committee and entitled to vote.

SECRETARY

117. Secretary

117.1 Subject to the provisions of the Companies Acts, the board shall appoint a secretary or joint secretaries and shall have power to appoint one or more persons to be an assistant or deputy secretary at such remuneration and on such terms and conditions as it thinks fit. Without prejudice to any claim for damages which he may have for breach of any contract of service between him and the Company and to any claim which may arise by operation of law, the board may from time to time remove any person so appointed from office and appoint another or others in his place.

117.2 Any provision of the Companies Acts or of these articles requiring or authorising a thing to be done by or to a director and the secretary shall not be satisfied by its being done by or to the same person acting both as director and as, or in the place of, the secretary.

117.3 Anything required or authorised to be done by or to the secretary may, if the office is vacant or there is for any other reason no secretary capable of acting, be done by or to any assistant or deputy secretary or, if there be no assistant or deputy secretary capable of acting, by or to any officer of the Company authorised generally or specially in that behalf by the board.

- 117.4 Persons dealing with the Company shall be entitled to assume that each joint secretary is entitled by himself to do anything required or authorised to be done by the secretary.

AUTHENTICATION OF DOCUMENTS

118. Authentication of documents

- 118.1 Any director or the secretary or any person appointed by the board for the purpose shall have power to authenticate:
- 118.1.1 any documents affecting the constitution of the Company (including its articles of association);
 - 118.1.2 any resolutions passed by the Company or the board or a committee; and
 - 118.1.3 any books, records, documents and accounts relating to the business of the Company,
- and to certify copies of them or extracts from them as true copies or extracts, and any such authentication or certification shall be conclusive and binding on all concerned.
- 118.2 If any books, records, documents and accounts are not kept at the office, the person who holds them shall be deemed to be the person so appointed by the board for the purposes of article 118.1.
- 118.3 Any books, records, documents and accounts which are held by the Company in electronic form may be authenticated under this article 118 as if they were books, records, documents or accounts held in hard copy form.

MINUTES

119. Minutes

- 119.1 The board shall cause minutes to be made, in books kept for the purpose, of:
- 119.1.1 all appointments of officers made by the board;
 - 119.1.2 all appointments of committees;
 - 119.1.3 the names of directors present at every meeting of the board, committees, the Company or the holders of any class of shares or debentures of the Company; and
 - 119.1.4 all orders, resolutions and proceedings of such meetings.
- 119.2 Any such minutes, if purporting to be signed by the chairman of the meeting at which the proceedings were held, or by the chairman of the next succeeding meeting, or the secretary, shall be sufficient evidence of the matters stated in such minutes.

SEALS

120. Safe custody

The board shall provide for the safe custody of every seal.

121. Application of seals

121.1 A seal shall only be used pursuant to the authority of a resolution of the board or of a committee.

121.2 The board may determine who shall sign any document to which a seal is affixed or which is intended to take effect as if executed under seal (or, in the case of share certificates, on which the seal is printed), either generally or in relation to a particular document or type of document. The board may also determine, either generally or in any particular case, that such signature may be dispensed with. Unless otherwise determined by the board:

121.2.1 share certificates and, subject to the provisions of any document constituting the same, certificates issued in respect of any debentures or other securities of the Company need not be signed; and

121.2.2 every other document to which a seal is affixed shall be signed by one director in the presence of a witness, by one director and the secretary or by two directors.

121.3 Nothing in these articles shall require the Company to issue under the seal any certificate or other document which is not by law required to be so issued.

122. Securities seal

Any seal which is to be used as a securities seal shall be used only for sealing securities issued by the Company, and documents creating or evidencing securities so issued. Any such securities or documents sealed with the securities seal shall not be required to be signed.

CHEQUES, BILLS AND NOTES

123. Cheques, bills and notes

The directors may draw, make, accept or endorse, or authorise any other person or persons to draw, make, accept or endorse, any cheques, bills of exchange, promissory notes or other negotiable instruments, provided that every cheque, bill of exchange, promissory note or other negotiable instrument drawn, made, accepted or endorsed shall be signed by such persons or person as the directors may appoint for the purpose.

DIVIDENDS AND OTHER PAYMENTS

124. Declaration of dividends

Subject to the provisions of the Companies Acts and of these articles, the Company may by ordinary resolution declare a dividend to be paid to the shareholders according to their respective rights and interests in the profits of the Company, but no dividend shall exceed the amount recommended by the board.

125. Interim dividends

125.1 Subject to the provisions of the Companies Acts, the board may, if it considers that the profits of the Company available for distribution justify such payments:

125.1.1 declare and pay interim dividends on shares of any class of such amounts and on such dates and for such periods as it determines; and

- 125.1.2 declare and pay the fixed dividend on any class of shares carrying a fixed dividend on the dates prescribed for the payment of such dividends.
- 125.2 If there is more than one class of shares, the board may pay interim dividends on shares which rank after shares conferring preferred rights with regard to dividend as well as on shares with preferred rights, unless at the time of payment any preferential dividend is in arrears.
- 125.3 Provided that the board acts in good faith, it shall not incur any liability to the holders of shares conferring preferred rights for any loss they may suffer by the lawful payment of any interim dividend on any shares ranking after those with preferred rights.
- 126. Entitlement to dividends**
- 126.1 The provisions of this article 126 shall apply unless these articles, the rights attached to any shares or the terms of any shares provide otherwise.
- 126.2 All dividends shall be declared and paid in proportions based on the amounts paid up on the nominal value of the shares during any portion or portions of the period in respect of which the dividend is paid.
- 126.3 No amount paid up on a share in advance of a call shall be treated for the purpose of this article 126 as paid up on the share.
- 126.4 If the terms on which any share is allotted provide that such share shall be entitled to a dividend as if the nominal value of it were fully paid or partly paid from a particular date (in the past or the future), then such share shall be entitled to a dividend on that basis.
- 127. Method of payment**
- 127.1 The Company may pay any dividend, interest or other sum payable in respect of a share:
- 127.1.1 in cash or by cheque, warrant or money order;
- 127.1.2 by any bank or other funds transfer system;
- 127.1.3 in respect of shares in uncertificated form, where the Company is authorised to do so by or on behalf of the holder or joint holders, by means of a relevant system (subject always to the facilities and requirements of that relevant system). Without prejudice to the generality of the preceding wording, such payment may include the sending by the Company or by any person on its behalf of an instruction to the Operator of the relevant system to credit the cash memorandum account of the holder or joint holders or, if permitted by the Company, of such person as the holder or joint holders may direct in writing; and/or
- 127.1.4 by such other means and to or through such person as the holder or joint holders may direct in writing.
- 127.2 Every such cheque, warrant or money order may be sent:
- 127.2.1 by post to the registered address of the person entitled to it;
- 127.2.2 in the case of joint holders (or of two or more persons being jointly entitled to a share as a result of the death or bankruptcy of the holder or otherwise by operation of law), to the registered address of that person whose name stands first in the register (or, in the case of persons so entitled, if their names are not noted in the register, to such of those persons whose surname is first alphabetically); or

127.2.3 to such person and address as the person or persons entitled may direct in writing.

Every cheque, warrant or money order is sent at the risk of the person entitled to the money represented by it. Without prejudice to the generality of the preceding wording, if any such cheque, warrant or money order has or is alleged to have been lost, stolen or destroyed, the board may, if the person entitled to such cheque, warrant or money order requests it, issue a replacement cheque, warrant or money order (subject to compliance with such conditions as to evidence and indemnity and the payment of out-of-pocket expenses of the Company in connection with the request as the board thinks fit).

127.3 The Company shall have no responsibility for any sum lost or delayed in the course of transfer by or through any bank or other funds transfer system (including the relevant system concerned) or when it has acted on any directions given in writing by the person or persons entitled to it.

127.4 The payment of the cheque, warrant or money order or the collection of funds from or transfer of funds by a bank or other funds transfer system in accordance with article 127.1 or, in respect of shares in uncertificated form, the making of payment in accordance with the facilities and requirements of the relevant system concerned shall be a good discharge to the Company.

127.5 Any joint holder or other person jointly entitled to any share may give an effective receipt for all dividends and other monies paid in respect of such share.

128. Currency of payment

128.1 Unless otherwise provided by these articles or the rights attached to any shares, a dividend or any other monies payable in respect of a share may be declared or paid in whatever currency the board may decide.

128.2 The board may decide that a particular approved depositary should receive dividends in a currency other than the currency in which it is declared and may make arrangements accordingly. In particular, where an approved depositary has elected or agreed to receive dividends in another currency, the board may in its discretion make arrangements with such approved depositary for payment of dividends to be made to it for value on the date on which the relevant dividend is paid, or such later date as the board may determine.

128.3 In the event that a dividend is to be paid in a currency other than the currency in which it was declared, the rate of exchange to be used for conversion of the dividend shall be such market rate selected by the board as it shall consider appropriate as at the close of business on the last working day before:

128.3.1 in the case of a dividend declared by ordinary resolution in accordance with the provisions of article 124, the date when the board announces their intention to recommend the particular dividend; or

128.3.2 in any other case, the date when the board declares the particular dividend.

128.4 The decision of the board regarding the rate of exchange shall be final and conclusive.

129. Dividends not to bear interest

No dividend or other monies payable by the Company on or in respect of any share shall carry a right to receive interest from the Company, unless otherwise provided by the rights attached to the shares.

130. Calls or debts may be deducted from dividends

The board may deduct from any dividend or other monies payable to any person on or in respect of a share all such sums as may be due from him to the Company on account of calls or otherwise in relation to shares. Monies deducted in this way may be used to pay such amounts owed to the Company in relation to such shares.

131. Unclaimed dividends etc

All unclaimed dividends, interest or other sums payable may be invested or otherwise made use of by the board for the benefit of the Company until claimed. All dividends unclaimed for a period of 12 years after having been declared or becoming due for payment shall be forfeited and cease to remain owing by the Company. The payment of any unclaimed dividend, interest or other sum payable by the Company on or in respect of any share into a separate account shall not constitute the Company a trustee, and the Company shall not be liable to pay interest, in respect of it.

132. Uncashed dividends

If:

132.1 on two consecutive occasions:

132.1.1 cheques, warrants or money orders for dividends or other monies payable in respect of a share sent by the Company to the person entitled to it are returned to the Company or left uncashed during the period for which they are valid; or

132.1.2 any transfer by a bank or other funds transfer system has not been satisfied; or

132.2 following one such occasion, reasonable enquiries have failed to establish any new postal address of the holder,

the Company shall not be obliged to send or transfer any dividends or other monies payable in respect of that share due to that person until he notifies the Company of an address to be used for the purpose.

133. Payment of dividends in kind

133.1 Without prejudice to any other provision of these articles, the board may, with the authority of an ordinary resolution of the Company, direct that payment of all or part of any dividend declared may be satisfied by the distribution of specific assets (and, in particular, of paid up shares or debentures of any other company).

133.2 The board may settle any difficulty which arises in relation to the distribution, as it thinks fit; and, in particular, may:

133.2.1 ignore fractions, or issue certificates for fractions, or authorise any person to sell and transfer fractions;

- 133.2.2 fix the value for the distribution of such specific assets or any part of them;
- 133.2.3 determine that cash payments may be made to any shareholders on the basis of the value so fixed in order to secure equality of distribution; and/or
- 133.2.4 vest any such assets in trustees on trust for the persons entitled to the dividend.

SCRIP DIVIDENDS AND DIVIDEND REINVESTMENT

134. Payment of scrip dividends

- 134.1 Without prejudice to any other provision of these articles, the board may, with the prior authority of an ordinary resolution of the Company, offer holders of ordinary shares the right to elect to receive new ordinary shares, credited as fully paid, instead of cash in respect of all or part of any dividend or dividends specified by the ordinary resolution.
- 134.2 The board may, in its absolute discretion, exclude or restrict the offer to elect to receive new shares where it considers that this is necessary or desirable to comply with legal or practical problems under the laws of any territory, or the requirements of any recognised regulatory body or any stock exchange in any territory.
- 134.3 The board may offer holders the right to elect to receive new shares instead of cash for:
 - 134.3.1 the next dividend; or
 - 134.3.2 all future dividends (if a scrip dividend alternative is made available) until such time as they notify the Company that they no longer wish to receive new shares.
- 134.4 The following provisions shall apply where payment of a dividend is satisfied in accordance with article 134.1:
 - 134.4.1 the ordinary resolution may specify a particular dividend or may relate to all or any dividends declared or paid within a specified period;
 - 134.4.2 a shareholder is entitled to such number of new shares whose total relevant value is as near as possible to the cash amount (disregarding any associated tax credit) he would have received, but not in excess of it. For such purpose, the “relevant value” of an ordinary share shall be the average market value of such shares for the five dealing days commencing, and including, the day when such shares are first quoted “ex-dividend” or a later day chosen by the board. The “average market value” shall be calculated:
 - 134.4.2.1 by reference to the middle market quotations for a fully paid ordinary share on the London Stock Exchange, as published in the Daily Official List of the London Stock Exchange; or
 - 134.4.2.2 in such other manner as may be determined by or in accordance with the ordinary resolution.

- 134.4.3 the board may make such provisions as it considers necessary or expedient in relation to any offer to be made pursuant to this article 134, including (but not limited to):
- 134.4.3.1 the giving of notice to shareholders of the right of election offered to them;
 - 134.4.3.2 the provision of forms of election (whether in respect of a particular dividend or dividends generally);
 - 134.4.3.3 determining the procedure for making and revoking such elections;
 - 134.4.3.4 specifying the place at which, and the latest time by which, forms of election and any other relevant documents must be lodged in order to be effective; and
 - 134.4.3.5 payment in cash to shareholders in respect of their fractional entitlements, provision for the accrual, retention or accumulation of all or part of the benefit of fractional entitlements to or by the Company or to or by or on behalf of any shareholder or the application of any accrual, retention or accumulation to the allotment of fully paid shares to any shareholder or any other provision for fractional entitlements;
- 134.4.4 the relevant dividend (or that part of the dividend in respect of which a right of election has been offered) shall not be declared or payable on shares in respect of which an election has been duly made (“**elected shares**”); instead, new shares shall be allotted to the holders of the elected shares on the basis of allotment calculated as stated in article 134.4.2. For such purpose, the board may:
- 134.4.4.1 resolve to capitalise a sum equal to the aggregate nominal amount of the new shares to be allotted on that basis out of any profits of the Company (whether or not they are available for distribution) which are not required for paying any preferential dividend, or any sum standing to the credit of any other reserve of the Company (including any share premium account, capital redemption reserve or other undistributable reserve); and
 - 134.4.4.2 appropriate such sum in paying up in full the appropriate number of new shares for allotment and distribution to the holders of the elected shares on such basis.
- A board resolution capitalising any part of any profits or reserve in accordance with this article 134.4.4 shall have the same effect as if such capitalisation had been authorised by ordinary resolution of the Company in accordance with these articles and, in relation to any such capitalisation, the board may exercise all the powers conferred on it by these articles without the need for such ordinary resolution; and
- 134.4.5 the new shares so allotted shall be allotted as at the record date for the dividend in respect of which the right of election has been offered, and shall rank equally in all respects with each other and with the existing fully paid shares. Provided that they will not rank for any dividend or other distribution or other entitlement which has been declared, made or paid by reference to such record date.

135. Dividend reinvestment generally

- 135.1 The board may implement and maintain one or more share dividend or distribution reinvestment plans, including or instead of offering scrip dividends in accordance with article 134. Any such plan may be suspended or terminated at any time by the board, in its absolute discretion.
- 135.2 The terms and conditions of any such plan shall be determined by the board in its absolute discretion, and it may amend such terms and conditions as it thinks fit. In particular, the board may determine that any such plan shall only be available to certain shareholders, or to part of the dividends.
- 135.3 Without prejudice to the provisions of article 135.2, the terms of any such plan may give shareholders the right:
- 135.3.1 to elect to receive new fully paid shares instead of a cash amount;
 - 135.3.2 to subscribe in cash for new shares, payable in full or by instalments;
 - 135.3.3 to apply cash in paying up in full or by instalments any unpaid or partly paid shares held on the terms of the plan;
 - 135.3.4 to apply cash in purchasing existing shares; or
 - 135.3.5 to accept any other option or participate in any other arrangements thought by the board to be appropriate.
- 135.4 To the extent that any provision of this article 135 relates to offers to elect to receive new shares instead of a cash dividend, it shall be subject to the provisions of article 134 and of any ordinary resolution passed under article 134.1.

CAPITALISATION OF PROFITS AND RESERVES

136. Authority to capitalise and appropriation of capitalised sums

- 136.1 Subject to the articles, the board may, if it is so authorised by an ordinary resolution of the Company:
- 136.1.1 decide to capitalise any profits of the Company (whether or not they are available for distribution) which are not required for paying a preferential dividend, or any sum standing to the credit of any other reserve of the Company (including any share premium account, capital redemption reserve or other undistributable reserve); and
 - 136.1.2 appropriate any sum which it so decides to capitalise (a “**capitalised sum**”) to the persons who would have been entitled to it if it were distributed by way of dividend (“**persons entitled**”) and in the same proportions as their entitlement to dividends (“**relevant proportions**”).
- 136.2 Capitalised sums must be applied on behalf of the persons entitled and in the relevant proportions.

- 136.3 Any capitalised sum may be applied in paying up new shares of a nominal amount equal to the capitalised sum, which are then allotted, credited as fully paid, to the persons entitled or as they may direct.
- 136.4 A capitalised sum which was appropriated from profits available for distribution may be applied:
- 136.4.1 in or towards paying up any amounts unpaid on existing shares held by the persons entitled (whether as to the nominal value of the shares or any amount payable to the Company by way of premium); or
- 136.4.2 in paying up new debentures or other securities of the Company of a nominal amount equal to the capitalised sum, which are then allotted, credited as fully paid, to the persons entitled or as they may direct.
- 136.5 Subject to the articles, the board may:
- 136.5.1 apply capitalised sums in accordance with articles 136.3 and 136.4 partly in one way and partly in another;
- 136.5.2 make such arrangements as it thinks fit where any difficulty arises with regard to any distribution of any capitalised sum; and, in particular, in the case of shares, debentures or other securities becoming distributable under this article 136 in fractions, the board may decide that the benefit of fractional entitlements belongs to the Company, that fractions are to be ignored, to make payments in cash in lieu of fractional entitlements, or otherwise deal with fractions as it thinks fit;
- 136.5.3 authorise any person to enter into an agreement with the Company on behalf of all the persons entitled which is binding on them in respect of the allotment of shares, debentures or other securities to them under this article 136; and
- 136.5.4 generally do all acts and things required to give effect to the ordinary resolution of the Company.
- 136.6 For the purposes of this article 136, unless the relevant ordinary resolution provides otherwise, if the Company holds treasury shares of the relevant class at the record date for the capitalisation, it shall be treated as if it were entitled to receive the dividends in respect of those treasury shares which would have been payable if those treasury shares had been held by a person other than the Company.

RECORD DATES

137. Record dates

- 137.1 Regardless of any other provision of these articles but without prejudice to the rights attached to any shares, the Company or the board may fix any time on any date (the “**record date**”) as the time at which persons registered as the holders of shares, debentures or other securities of the Company shall be entitled to receive any dividend, distribution, capitalisation, allotment or issue.
- 137.2 Such record date may be on or at any time before the date on which such dividend, distribution, capitalisation, allotment or issue is paid or made, and may be after any such dividend, distribution, capitalisation, allotment or issue is announced, declared or resolved.

ACCOUNTS

138. Inspection of accounts

138.1 No shareholder (other than a shareholder who is a director or other officer) shall have any right to inspect any accounting record or other document of the Company, unless:

138.1.1 he has such right pursuant to the Companies Acts or a proper court order;

138.1.2 he is authorised by the board; or

138.1.3 he is authorised by an ordinary resolution of the Company.

139. Copy of accounts to be sent to shareholders

Subject to article 140, the Company shall send a copy of its annual accounts and reports for each financial year to:

139.1 every shareholder and every holder of debentures of the Company (whether or not such shareholder or holder is entitled to receive notice of general meetings of the Company); and

139.2 every person who is entitled to receive notice of general meetings of the Company,
in each case, as required by and in accordance with the Companies Acts.

140. Summary financial statements

Where permitted by and in accordance with the Companies Acts, the Company may provide a summary financial statement instead of copies of the annual accounts and reports required to be sent in accordance with article 139.

NOTICES

141. Notices to be in writing

Any notice to be given to or by any person pursuant to these articles shall be in writing, except that a notice convening a meeting of the board or of a committee need not be in writing.

142. Service of notices, documents or other information on shareholders

142.1 Any notice, document or other information may be served on or sent or supplied to any shareholder by the Company:

142.1.1 personally;

142.1.2 by sending it through the post in a prepaid envelope addressed to the shareholder at his registered address (or at any other address in the United Kingdom notified for the purpose);

142.1.3 by delivering it by hand to or leaving it at that address in an envelope addressed to the shareholder;

- 142.1.4 by sending or supplying it by electronic means to an address notified by the shareholder to the Company for that purpose;
- 142.1.5 by making it available on a website and notifying the shareholder of its availability in accordance with this article 142;
- 142.1.6 by means of a relevant system; or
- 142.1.7 by any other means authorised in writing by the relevant shareholder.
- 142.2 However, article 142.1 shall not affect any provision of the Companies Acts requiring offers, notices or documents to be served on or sent or supplied to a shareholder in a particular way.
- 142.3 Subject to article 142.4, in the case of joint holders of a share, all notices, documents or other information shall be served on or sent or supplied to the person named first in the register in respect of the joint holding. Notice so given shall be sufficient notice to all joint holders.
- 142.4 If a shareholder (or, in the case of joint holders, the person first named in the register) has a registered address outside the United Kingdom, but has notified the Company of a postal address within the United Kingdom at which notices, documents or other information may be given to him, he shall be entitled to have notices, documents and other information given to him at that address. Otherwise, a shareholder (or joint holders) whose registered address is outside the United Kingdom shall not be entitled to receive any notice, document or other information from the Company.
- 142.5 In the case of joint holders of a share, anything to be agreed or specified in relation to any notice, document or other information to be served on or sent or supplied to them may be agreed or specified by any one of the joint holders and the agreement or specification of the senior shall be accepted to the exclusion of that of the other joint holders and, for this purpose, seniority shall be determined by the order in which the names stand in the register in respect of the joint holding.
- 142.6 If, as a result of all or some of the notices, dividend warrants or other documents or information given, sent or supplied by the Company to a shareholder being returned undelivered to the Company or other reasonable evidence, it is apparent that during a period of at least two consecutive years such documents or information have not been received by that shareholder, then the Company shall no longer be obliged to give notices to that shareholder until he notifies the Company of a new registered address or postal address within the United Kingdom for the service of notices and the despatch or supply of documents and other information, or shall have informed the Company of an address for the service of notices and the despatch or supply of documents and other information in electronic form.
- 142.7 Any notice, document or other information to be given, sent or supplied to a shareholder shall be deemed to have been duly given, sent or supplied to any shareholder who under article 142.4 or 142.6 or any other provision of these articles is not entitled to the same from the Company by exhibiting the same at the office.
- 142.8 The Company may at any time and in its sole discretion choose to serve, send or supply notices, documents or other information in hard copy form alone to some or all shareholders.

143. Notice by advertisement

If there is a suspension or curtailment of postal services within the United Kingdom or some part of the United Kingdom, the Company need only give notice of a general meeting to those shareholders with whom the Company can communicate by electronic means and who have provided the Company with an address for this purpose. The Company shall also advertise the notice in at least one newspaper with a national circulation and make it available on its website from the date of such advertisement until the conclusion of the meeting or any adjournment of it. If at least six clear days prior to the meeting the sending or supply of notices by post in hard copy form has again become generally possible, the Company shall send or supply confirmatory copies of the notice by post to those shareholders who would otherwise receive the notice in hard copy form.

144. Evidence of service on shareholders

144.1 Any notice, document or other information:

144.1.1 addressed to a shareholder at his registered address or address for service in the United Kingdom shall, if sent by post, be deemed to have been given:

144.1.1.1 (if prepaid as first class) 24 hours after it was posted; and

144.1.1.2 (if prepaid as second class) 48 hours after it was posted

and it shall be sufficient to prove that the envelope containing such notice, document or information was properly addressed, prepaid and put in the post;

144.1.2 not sent by post but addressed to a shareholder and delivered by hand to or left at a registered address or address for service in the United Kingdom shall be deemed to have been given on the day it was so delivered or left;

144.1.3 served, sent or supplied to a shareholder by electronic means shall be deemed to have been given on the day on which it was sent and it shall be sufficient to show that such notice, document or information was properly addressed;

144.1.4 served, sent or supplied to a shareholder by publishing such notice, document or other information on a website shall be deemed to have been given on the day on which the notice, document or other information was first made available on the website or, if later, when the recipient was given (or is deemed to have been given) notification of the fact that the notice, document or other information was available on the website in accordance with the provisions of this article 144;

144.1.5 served, sent or supplied to a shareholder by means of a relevant system shall be deemed to have been given when the Company, or any participant in the relevant system acting on behalf of the Company, sends the instruction relating to the notice, document or other information;

144.1.6 served, sent or supplied to a shareholder by any other means authorised in writing by the shareholder shall be deemed to have been given when the Company has carried out the action it has been authorised to take for that purpose.

144.2 A shareholder present in person or by proxy at any meeting of the Company or of the holders of any class of shares shall be deemed to have been given proper notice of the meeting and, if required, of the purposes for which it was called.

144.3 Any notice or document exhibited at the office shall be deemed to have been served, sent or supplied on that day when it was first so exhibited.

145. Record date for service on shareholders

For the purpose of serving, sending or supplying notices, documents or other information on shareholders, whether in accordance with the Companies Acts, a provision in these articles or any other document, the Company may determine that only those persons entered in the register at the close of business on a day fixed by the Company are entitled to receive such notices, documents or other information. This day must not be more than 14 days before the day that the notice, document or information is served, sent or supplied. No change in the register after that time shall invalidate that service, sending or supply.

146. Notice binding on transferees etc

Every person who, by operation of law, transfer or by any other means, becomes entitled to a share shall be bound by any notice in respect of that share (other than a notice served by the Company under section 793 of the Act) which, before his name is entered in the register, has been duly served on, sent or supplied to a person from whom he derives his title.

147. Notice in case of death, bankruptcy or mental disorder

In the case of the death or bankruptcy of a shareholder or some other event giving rise to the transmission of a share by operation of law, the Company may serve, send or supply a notice, document or other information to the person entitled as a result of such event as if he was the holder of the share. Such notice, document or other information shall be given by addressing it to him by name or by the title of representative of the deceased or trustee of the bankrupt shareholder (or by any similar designation) at an address supplied for that purpose by the person claiming to be so entitled. Until such an address has been supplied, a notice, document or other information may be served, sent or supplied in any manner in which this might have been done if the death, bankruptcy or other event had not occurred. Service, sending or supply in accordance with this article 147 shall be deemed to be sufficient notice to all other persons interested in such share.

148. Notices to directors

The Company may give any notice, document or other information to a director:

- 148.1 personally;
- 148.2 by word of mouth;
- 148.3 by sending it through the post in a prepaid envelope to the postal address given by him to the Company for this purpose;
- 148.4 by delivering it by hand to or leaving it at that address in an envelope addressed to him; or
- 148.5 by electronic means, to an address given by him to the Company for this purpose.

DESTRUCTION OF DOCUMENTS

149. Destruction of documents

- 149.1 Provided that it complies with the uncertificated securities rules in relation to shares held in uncertificated form, the Company may destroy:
 - 149.1.1 any share certificate which has been cancelled, after one year from the date of such cancellation;

- 149.1.2 any mandate for the payment of dividends or other monies or any variation or cancellation of the same or any notification of change of name or address, after two years from the date such mandate, variation, cancellation or notification was recorded by the Company;
 - 149.1.3 any transfer of shares (including any documents sent to support a transfer and any documents constituting the renunciation of an allotment of shares) which has been registered, after six years from the date of registration;
 - 149.1.4 any other document on the basis of which any entry in the register is made, after six years from the date an entry in the register was first made in respect of it; and
 - 149.1.5 any instrument of proxy, after one year from the poll at which it was used or (if there was no poll) after one month from the meeting to which it relates.
- 149.2 It shall be presumed conclusively in favour of the Company that:
- 149.2.1 every entry in the register purporting to have been made on the basis of a share transfer form or other document so destroyed was duly and properly made;
 - 149.2.2 every share transfer form so destroyed was a valid and effective transfer duly and properly registered;
 - 149.2.3 every share certificate so destroyed was a valid certificate validly cancelled; and
 - 149.2.4 every other document destroyed under this article 149 was a valid and effective document in accordance with the recorded particulars of it in the books or records of the Company,
- provided always that:
- 149.2.5 the provisions of this article 149 shall apply only to the destruction of a document in good faith and without express notice to the Company that the preservation of such document was relevant to a claim;
 - 149.2.6 nothing contained in this article 149 shall be construed as imposing on the Company any liability in respect of the destruction of any such document earlier than provided for in this article 149 or in any case where the conditions of this article 149 are not fulfilled; and
 - 149.2.7 references in this article 149 to the destruction of any document include references to its disposal in any manner.

WINDING UP

150. Power to petition

The board may present a petition to the court in the name and on behalf of the Company for the Company to be wound up.

151. Winding up

- 151.1 If the Company is wound up (whether the liquidation is voluntary, under supervision of the court or by the court), the liquidator may, with the authority of a special resolution and any other sanction required by law, divide among the shareholders in kind the whole or any part of the assets of the Company. This applies whether or not the assets consist of property of one kind or different kinds. For this purpose, the liquidator may set such value as he considers fair on any one or more class or classes of property, and may determine, on the basis of such valuation, how such division shall be carried out as between shareholders or classes of shareholders; however, if any such division is otherwise than in accordance with the existing rights of shareholders, every shareholder shall have the same right of dissent and other ancillary rights as if such resolution were a special resolution passed in accordance with section 110 of the Insolvency Act 1986. The liquidator may, with the same authority, transfer any part of the assets to trustees on such trusts for the benefit of shareholders as the liquidator, with the same authority, thinks fit. The liquidation may then be closed and the Company dissolved. The liquidator shall not, however (except with the consent of the shareholder concerned), distribute to a shareholder any asset to which there is attached a liability or potential liability for the owner.
- 151.2 The power of sale of a liquidator shall include a power to sell, wholly or in part, for shares or debentures or other obligations of another company, whether it is already in existence or is about to be formed for the purposes of the sale.

DIRECTORS' INDEMNITY AND INSURANCE

152. Directors' indemnity and insurance

To the extent permitted by the Companies Acts, the Company may:

- 152.1 indemnify any director of the Company or of any associated company against any liability;
- 152.2 purchase and maintain insurance against any liability for any director of the Company or of any associated company.

EXHIBIT 1, SHEET 1
6 Tide Street
Boston, Massachusetts
(the "Building")
Located at Innovation Square (the "Complex")

- Execution Date: August 10, 2018
- Tenant: PURETECH HEALTH LLC,
a Delaware limited liability company
- Mailing Address: Prior to Term Commencement Date:
501 Boylston Street, Suite 6102
Boston, MA 02116
Attn: Stephen M. Muniz
- After the Term Commencement Date:
Innovation Square
6 Tide Street, Suite 300 and Suite 400
Boston, MA 02110-2412
Attn: Stephen M. Muniz
- Landlord: RBK I TENANT, LLC, a Delaware limited liability company
- Mailing address: c/o Related Beal, 177 Milk Street, Boston, Massachusetts 02109
Attn: Executive Vice President
- Art. 2 Premises: An area consisting of all of the rentable area on the fourth (4th) floor of the Building and a portion of the third (3rd) floor of the Building, substantially as shown on Lease Plan, Exhibit 2, together comprising the Total Rentable Area thereof.
- Art. 3.1 Anticipated Commencement Date: April 26, 2019.
- Art. 3.2 Term or original Term: Eleven Lease Years (as defined below) consisting of ten (10) years and three (3) months (plus the partial month, if any, following the Term Commencement Date).
- Art. 4 Improvement Allowance: Up to a maximum of \$210.00 per square foot of Rentable Area in the Premises (e.g., \$10,680,180.00 based on 50,858 rentable square feet), as provided in Article 4.
- Supplemental Allowance: Up to a maximum of \$.10 per square foot of Rentable Area in the Premises (e.g., \$5,085.80 based on 50,858 rentable square feet), as provided in Article 4.
- Art. 5 Use of Premises: Research and development, light manufacturing and ancillary and accessory uses thereto including office use, and for no other purposes, subject to Article 5 below.

Art. 6 Yearly Rent / Monthly Rent:

<u>Period</u>	<u>Rent per RSF</u>	<u>Yearly Rent</u>	<u>Monthly Rent</u>
Lease Year 1	\$ 71.00*	\$3,610,918.00*	\$300,909.83*
Lease Year 2	\$ 73.13*	\$3,719,245.54*	\$309,937.13*
Lease Year 3	\$ 75.32*	\$3,830,624.56*	\$319,218.71*
Lease Year 4	\$ 77.58	\$3,945,563.64	\$328,796.97
Lease Year 5	\$ 79.91	\$4,064,062.78	\$338,671.90
Lease Year 6	\$ 82.31	\$4,186,121.98	\$348,843.50
Lease Year 7	\$ 84.78	\$4,311,741.24	\$359,311.77
Lease Year 8	\$ 87.32	\$4,440,920.56	\$370,076.71
Lease Year 9	\$ 89.94	\$4,574,168.52	\$381,180.71
Lease Year 10	\$ 92.64	\$4,711,485.12	\$392,623.76
Lease Year 11 (partial)	\$ 95.42	\$4,852,870.36	\$404,405.86

* Abated Rent: Notwithstanding the Yearly Rent set forth above, so long as this Lease is in full force and effect and Tenant is not in default under any of the terms and conditions of this Lease (beyond any applicable notice or Grace Period (as defined below)) at any time during the applicable Abated Rent Period, Tenant shall be entitled to an abatement of the monthly installments of Yearly Rent (but not Additional Rent, if, as, and to the extent same is payable pursuant hereto), or a so-called “free rent” period, for the last calendar month of each of the first (1st) three (3) Lease Years (as defined below) of the Lease Term (the “Abated Rent Period”).

Art. 6 Rent Payment Address:
 c/o Related Beal
 177 Milk Street
 Boston, Massachusetts 02109

Art. 7 Total Rentable Area: 50,858 rentable square feet of space, consisting of the entire rentable area of the fourth (4th) floor of approximately 35,499 rentable square feet and approximately 15,359 rentable square feet of space on the third (3rd) floor of the Building and, subject to Article 7 below.

Total Rentable Area of Building: 124,896 rentable square feet (approximate), subject to Article 5 below.

Art. 8 Electric current will be furnished to Tenant pursuant to Section 8.1 below.

Art. 9 Operating Costs and Taxes:
 Tenant’s Proportionate Share: 40.72%, subject to Article 7 below.

Art. 29.3 Broker: JLL

Art. 29.13 Letter of Credit Amount: \$1,203,639.33, subject to Section 29.13 below.

Art. 29.14 Parking Spaces: Up to thirty-four (34) parking spaces, subject to Article 7 and Section 29.14 below.

Art. 29.15 Option to Extend Term: Two (2) consecutive periods of five (5) years each, as provided in Section 29.16.

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THIS LEASE made entered into on the Execution Date as stated in Exhibit 1 and between the Landlord and the Tenant named in Exhibit 1.

Landlord does hereby demise and lease to Tenant, and Tenant does hereby hire and take from Landlord, the premises hereinafter mentioned and described (hereinafter referred to as "Premises"), upon and subject to the covenants, agreements, terms, provisions and conditions of this Lease for the term hereinafter stated:

1. REFERENCE DATA

Each reference in this Lease to any of the terms and titles contained in any Exhibit attached to this Lease shall be deemed and construed to incorporate the data stated under that term or title in such Exhibit.

2. DESCRIPTION OF DEMISED PREMISES

2.1 Demised Premises. The Premises are that portion of the Building as described in Exhibit 1 (as the same may from time to time be constituted after changes therein, additions thereto and eliminations therefrom pursuant to rights of Landlord hereinafter reserved) and is hereinafter referred to as the "Building", substantially as shown hatched or outlined on the Lease Plan (Exhibit 2) hereto attached and incorporated by reference as a part hereof.

2.2 Appurtenant Rights. Tenant shall have, as appurtenant to the Premises, rights to use in common, with others entitled thereto, subject to the Rules and Regulations (as defined below) from time to time made by Landlord of which Tenant is given notice; (a) the Common Areas (as defined below); (b) if any portion of the Premises include less than the entire rentable area of any floor, the common toilets and other common facilities of such floor; and (c) common loading dock facilities serving the Building; provided, however, that Tenant's use of the loading dock facilities must be in compliance with all applicable Rules and Regulations, laws, regulations and ordinances and subject to reasonable notice and scheduling; and (d) subject to reasonable notice and scheduling, access to and use of the Building's freight elevator, and no other appurtenant rights or easements, except as expressly provided in this Lease. Tenant shall also have the right to use in common with others entitled thereto, and same shall be included in Tenant's Proportionate Share calculation by inclusion in the rentable area of the Premises, of the following shared laboratory facilities as provided herein: the laboratory waste and chemical storage areas plumbed per the Base Building Plans (as defined below) for Tenant's acid neutralization system, all of which are both located on the first (1st) floor (the "Common Laboratory Facilities") as shown on Exhibit 6-1. Landlord shall have the right to reasonably limit and allocate Tenant's utilization of the available Common Laboratory Facilities in proportion to percentage that the Total Rentable Area of the Premises bears to the Total Rentable Area of the Building, from time to time, in a manner consistent with Schedule A to Exhibit 6-1, which shall exclude those portions of the first (1st) floor Landlord may use or reserve for present and future Building operations and uses. In addition, as part of the Common Laboratory Facilities, Tenant shall have the right to access to up to five (5) watts of emergency generator capacity per square foot of the Premises dedicated to laboratory space (not to exceed 60% of the Premises for purposes of this sentence) from the emergency generator serving the Building, from time to time. Tenant shall pay for its use of the Common Laboratory Facilities including, without limitation, utility usage therefor, in accordance with the provisions of Article 9 of this Lease relating to Tenant's Operating Expense Share. In addition, Tenant shall have the right to use the conference facilities shown on Exhibit 6-1 attached hereto (which use shall be subject to the rules and regulations attached hereto as Exhibit 6). Tenant shall also have the right to use one hundred percent (100%) of the control zone(s) (i.e., chemical storage area or capacity available) on the fourth (4th) floor of the Building and Tenant's proportionate share of the control zone(s) (i.e., chemical storage area or capacity available) located on the third (3rd) floor of the Building based on the rentable area of the third (3rd) floor portion of the Premises to the entire rentable area of the third (3rd) floor of the Building, which control zones shall be for the exclusive to Tenant during the Term of this Lease. Notwithstanding anything to the contrary herein or in the Lease contained, Landlord has no obligation to allow any particular telecommunication service provider to have access to the Building or to Tenant's Premises; provided, however, that Landlord shall not unreasonably prohibit access to Tenant's telecommunication service providers. If Landlord permits such access,

Landlord may condition such access upon the payment to Landlord by the service provider of reasonable fees assessed by Landlord. Landlord hereby agrees with Tenant that telecommunication service provider relationships (including, without limitation, providing service providers with commercially reasonable Building infrastructure access and use) will have been secured and providing service to the Building as of the Term Commencement Date, and Landlord shall maintain relationships (including, without limitation, providing service providers with commercially reasonable Building infrastructure access and use) therewith in a manner consistent with comparable first-class life science buildings the Seaport District of Boston, Massachusetts.

2.3 Exclusions and Reservations. All the perimeter walls of the Premises except the inner surfaces thereof, any balconies (except to the extent same are shown as part of the Premises on the Lease Plan (Exhibit 2)), terraces or roofs adjacent to the Premises, and any space in or adjacent to the Premises used for shafts, stacks, pipes, conduits, wires and appurtenant fixtures, fan rooms, ducts, electric or other utilities, sinks or other Building facilities, and the use thereof, as well as the right of access through the Premises for the purposes of operation, maintenance, decoration and repair, are expressly excluded from the Premises and reserved to Landlord; provided, however, that if Landlord is required to access, maintain or replace any of the foregoing within the Premises, Landlord shall use commercially reasonable efforts to minimize any interference with Tenant's occupancy rights hereunder arising out of such access, maintenance or replacement (including the advance notice and other requirements set forth in the Lease relating to Landlord's entry into the Premises).

2.4 Roof Rights.

(a) Tenant shall have the non-exclusive right, to install, operate and maintain, all in good order and repair, alter and replace, certain supplemental HVAC and other equipment in a portion or portions of the ("Roof") of the Building, including the non-exclusive right to use Building's chases, risers and conduits for utilities and installations to serve the Roof-top Equipment (collectively, "Roof-top Equipment"), provided that Landlord shall have the right to limit Tenant's use of the Building's chases, risers and conduits to Tenant's Proportionate Share of the available space thereof (i.e., space remaining after that used or reserved for Building operations). Tenant's use, installation and operation of the Roof-top Equipment (including the Building's chases, risers and conduits) shall be in compliance with all of the terms and conditions of this Lease, including but not limited to Article 12, and all of the specifications relating thereto as reasonably promulgated by and amended by Landlord from time to time that are not inconsistent with the express rights granted Tenant hereunder, or with the approved Plans for the Tenant Improvement Work (as those terms are defined below) or the approved plans for Tenant's Roof-Top Equipment (the "Specifications"). Tenant acknowledges and agrees that the right granted to Tenant hereunder is non-exclusive provided, however, that at all times during the Term: (i) Tenant shall have access to the Roof-top Equipment subject to reasonable notice and, if appropriate such as in the case or work thereon, scheduling; and (ii) Landlord shall not install, and shall not permit the installation and/or operation by any other party of, any additional microwave dishes, satellite dishes, antennae, towers and/or other structures or equipment on the Roof which interfere with Tenant's use of the Roof-top Equipment that is then in place. Tenant's ability to use the Roof for its Roof-top Equipment as provided hereunder shall be in conjunction with Landlord and other Building tenants and occupants (including Tenant) and shall be equitably and proportionately distributed, from time to time, among Landlord and such other tenants and occupants (including Tenant) (and Roof or other Building utility space may be used or reserved for Building operations) by Landlord in connection with such distribution and Tenant's share of the Roof for the purposes of such distribution shall include that portion of the Roof available for Tenant's Roof Deck (as defined below) and any other portions of the Building affected thereby including but not limited to Building/Roof ingress and egress, Roof penetrations, path(s) of travel, and Roof stair/elevator head house(s) installed by or on behalf of Tenant in connection therewith. Landlord shall use commercially reasonable efforts to accommodate Tenant's Roof-top Equipment requirements as provided herein, but Landlord shall have the right to reasonably limit and allocate Tenant's utilization of available and/or Roof or other Building utility space as aforesaid including the right to use and reserve Roof-top(s) and other Building utility space for future Building operations and other Building uses and operations. Pursuant to the terms and conditions hereof, Tenant shall have the right to use the Roof provided the same shall be delivered in the condition set forth in the Base Building Plans (as defined below) without any further representation or warranty, express or implied, and without any obligation for Landlord to perform any additional work in connection with Tenant's use thereof or provide services for the same, except as otherwise expressly set forth herein, including the completion of Landlord's Work and Landlord's maintenance, repair and restoration obligations set forth in this Lease.

(b) The Roof-top Equipment installed by or on behalf of Tenant shall be installed in the locations selected by Landlord, in its reasonable discretion, and Landlord shall have the right, to be exercised in good faith, to require Tenant to relocate the Roof-top Equipment from time to time, as provided in Subsection (d) below; provided, however, in no event shall Landlord require Tenant to so relocate its Roof-top Equipment at Tenant's cost for purposes benefiting another Building tenant or occupant. Landlord and Tenant shall use commercially reasonable efforts to allocate Roof and other Building utility space provided to Tenant in such a way so as to minimize the likelihood of any such relocation to certain Roof-top Equipment which efforts shall include indicating, upon review of Tenant's Roof-top Equipment plans, which equipment shall not need to be relocated in the event of a relocation (provided, however, that Tenant acknowledges and agrees that the Roof Deck (as defined below) would most likely have to be disassembled, at Tenant's cost, in order to effect Roof Repairs (as defined below)). Landlord makes no representation or warranty to Tenant that the Roof or other Building utility space will be satisfactory to Tenant when constructed in accordance with the Base Building Plans, provided Landlord shall use commercially reasonable efforts to assist Tenant to locate a satisfactory location in the Building utility space and on the Roof. Prior to installing or replacing any Roof-top Equipment, Tenant shall submit to Landlord plans and specifications for the installation thereof prepared by a licensed engineer reasonably satisfactory to Landlord (the "Roof Plans") which Roof Plans shall be subject to the prior reasonable approval of Landlord (including, but not limited to, location, size, design, and method of attachment to the Building of the Roof-top Equipment shown thereon) in accordance with the approval standard therefor as provided in Article 12. The Roof Plans shall be consistent with any applicable Rules and Regulations Specifications, and otherwise reasonably satisfactory to Landlord, and shall show the location of the installations of the Roof-top Equipment, any structural requirements and installations, and all related equipment and components on the Roof or Building utility space, the location and type of all piping, conduit, wiring, cabling, the manner in which same will be placed in or on and fastened to the Roof or Building utility space and any other information requested by Landlord, in Landlord's reasonable discretion. Landlord shall have the right to require that any Roof-top Equipment not be visible in a material manner from any location on the ground in the immediate vicinity of the Building and/or that the all such Roof-top Equipment be screened and sound attenuated in a manner satisfactory to Landlord, in each case in Landlord's reasonable discretion and as may be required by applicable legal requirements and that all Roof-top Equipment be installed in such a way so as to allow maintenance and repairs to the Roof (or other Building utility space) from time to time, all in Landlord's reasonable discretion. Landlord shall have the right to employ an engineer or other consultant to review the Roof Plans and the reasonable, actual out-of-pocket cost of such engineer or consultant shall be paid by Tenant to Landlord within thirty (30) days after Landlord's bill to Tenant therefor in reasonable detail. After Landlord has approved the Roof Plans and prior to installing any Roof-top Equipment, and any related equipment, wiring, conduit, piping, or cabling, Tenant shall obtain and provide to Landlord, except to the extent such Roof-top Equipment is being installed by Landlord as part of the Landlord's Work (as defined below) in which case Landlord shall obtain: (i) all required governmental and quasi-governmental permits, licenses, special zoning variances and authorizations, as required by applicable laws, rules, ordinances, regulations and restrictions, all of which Tenant shall obtain at its own cost and expense (but with Landlord's reasonable cooperation as provided in Article 12); and (ii) a policy or certificate of insurance evidencing such commercially reasonable insurance coverage as may be reasonably required by Landlord. Any alteration or modification of the Roof-top Equipment, or any associated piping, conduit, wiring, cabling, equipment (than a *de minimis* alteration or modification) after the Roof Plans have been approved shall require Landlord's prior written approval, which shall not be unreasonably withheld, conditioned or delayed. Landlord makes no representation or warranty that Tenant will be permitted under applicable law to install the Roof-top Equipment on the Roof or Building utility space.

(c) Installation and maintenance of the Roof-top Equipment, or any associated structural work, piping, conduit, wiring, cabling, and equipment shall be performed solely by contractors approved by Landlord, in its reasonable discretion. In connection with Tenant's early entry into the Premises pursuant to this Lease, Landlord shall permit Tenant to coordinate conduit and piping installation work with Landlord's Work to coordinate roof penetrations and associated waterproofing work. Landlord may require Tenant to use a roofing contractor selected by Landlord to perform any work that could damage, penetrate or alter the Roof and an electrician selected by Landlord to install any associated piping, conduit, wiring, cabling, equipment on the Roof or in the Building. Landlord may require anyone going on the Roof to execute in advance a commercially reasonable liability waiver, provided, however, that such waiver shall not operate to alter or amend any terms of this Lease. Tenant shall bear all costs and expenses incurred in connection with the installation, operation, maintenance, repair and/or removal of the Roof-top Equipment (other than the application of the Improvement Allowance) and Tenant agrees that Landlord shall not be responsible for, and, to the maximum extent this agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186, §15), but subject to Tenant's insurance requirements hereunder and Article 15

and Article 19, Tenant shall release, defend, indemnify and save Landlord harmless against and from any liability, loss, cost, expense, injury, damage, claim or suit resulting directly or indirectly from the aforesaid installations, use of the Roof and the use, operation and/or removal of any of the Roof-top Equipment and this indemnity and release shall survive the termination of this Lease.

(d) Tenant acknowledges that Landlord may decide, in its reasonable discretion, from time to time, to repair or replace the Roof (hereinafter "Roof Repairs"). Tenant is encouraged to design, install and maintain the Roof-top Equipment in a manner that allows for Landlord to conduct Roof Repairs without any removal thereof being required (e.g., using adequately framed, reinforced, sealed and elevated dunnage, curbing and/or roof framing) and Landlord shall reasonably cooperate with Tenant to accomplish this during the review and approval of Tenant's plans therefor. If Tenant fails to design, install and maintain the Roof-top Equipment in a manner that allows for Landlord to conduct Roof Repairs without any removal thereof being required and Landlord elects to make Roof Repairs that will in Landlord's good faith determination require Tenant to temporarily relocate its Roof-top Equipment on the Roof, Tenant shall, upon Landlord's request and reasonable notice and at Tenant's sole cost and expense, temporarily relocate the Roof-top Equipment so that the Roof Repairs may be completed; Landlord and Tenant shall use commercially reasonable efforts to cooperate in connection with such temporary relocation in order to minimize or mitigate the effect thereof, to no more than a *de minimis* amount, with respect to Tenant's use of and operation of its business in the Premises. Tenant acknowledges and agrees that the Roof Deck would most likely have to be disassembled, at Tenant's cost, in order to effect any required Roof Repairs. If Landlord elects to make Roof Repairs that will in Landlord's good faith determination require Tenant to temporarily relocate its Roof-top Equipment, Tenant shall, upon not less than forty-five (45) days prior written notice (or such shorter period as appropriate in the event of violation of applicable law or an emergency situation) at Landlord's request, temporarily relocate the Roof-top Equipment so that the Roof Repairs may be completed; Landlord and Tenant shall use commercially reasonable efforts to cooperate in connection with such temporary relocation in order to minimize or mitigate the effect thereof, to no more than a *de minimis* amount, with respect to Tenant's use of and operation of its business in the Premises. The cost of removing and reinstalling same shall be paid by Tenant or Landlord as provided above. To the maximum extent this agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186, §15), but subject to Tenant's insurance requirements hereunder and Article 15 and Article 19, Landlord shall not be liable to Tenant for any losses, liability, injury, damages, claim, suit, lost profits or other costs or expenses of any kind whatsoever incurred by Tenant, or any invitee, licensee or agent of Tenant as the result of the Roof Repairs.

(e) On the termination or expiration of the Lease, Tenant shall remove the Roof-top Equipment, and all associated conduit, wiring, cabling, equipment, and repair any damage caused thereby unless otherwise requested by Landlord or unless, subject to Landlord's prior written approval, not to be unreasonably withheld, arranges for another tenant or occupant of the Building to agree to use such equipment and assume Tenant's obligations hereunder in writing reasonably satisfactory to Landlord, and repair any damages caused thereby, at Tenant's sole cost and expense. If Tenant does not remove same on or before the date this Lease terminates or expires, Tenant hereby authorizes Landlord to remove and dispose of same and associated conduit, wiring, cabling, equipment, and Tenant shall promptly reimburse Landlord for third party out of pocket costs and expenses it incurs in removing and disposing of same and repairing any damages caused thereby. Tenant agrees that Landlord, pursuant to the immediately foregoing sentence, may dispose of the Roof-top Equipment, and any associated conduit, wiring, cabling, and equipment in any manner selected by Landlord.

Tenant's right to operate and maintain the Roof-top Equipment hereunder shall automatically expire and terminate on the date that the Term of the Lease expires or is otherwise terminated. This right to operate and maintain any Roof-top Equipment shall be suspended, at Landlord's option, if any of the following continue for more than five (5) business days after written notice from Landlord to Tenant (or such longer period as is reasonable under the circumstances and proportionate to the interference or damage or interference being caused and so long as Tenant is diligently pursuing a cure): (a) the Roof-top Equipment is causing physical damage to the Building or the Roof, (b) the Roof-top Equipment is materially interfering with the normal or customary transmission or receipt of signals from or to the Building with respect to transmission equipment located on the roof of the Building prior to the installation of the Roof-top Equipment, or (c) the Roof-top Equipment is causing Landlord to be in violation any local, state or federal law, regulation or ordinance; provided, Tenant shall have the right to remedy any of the foregoing circumstances to ensure the cessation of damage, material interference, or violation, as the case may be, to Landlord's reasonable satisfaction and thereupon Tenant may resume such use. Notwithstanding the foregoing, Landlord may suspend such right prior to the expiration of the five (5) business day period (as extended) but after notice reasonable in the circumstances to

Tenant under any of the following circumstances: (x) if necessary to prevent civil or criminal liability of in connection therewith; (y) if necessary to prevent an imminent and material interference of the conduct of business in the Building; or (z) if necessary to prevent injury to persons or imminent and material damage to the Building, Roof, other Building utility space or other property therein (which shall include but not be limited to damage to or leaking of the roof membrane).

2.5 Roof Deck.

(a) Tenant shall have the exclusive license to use construct, maintain and use an outdoor roof deck space in the approximate location shown on the Roof shown on Exhibit 16 attached hereto and incorporated herein (the "Roof Deck"), subject to the terms and conditions of this this Section 2.5 and other applicable terms and conditions of this Lease including but not limited to Articles 12 and 13 below and 2.5(c) above. Tenant's use of the Roof Deck shall in no event be used for a smoking area or other noxious or prohibited uses. All alterations and installations to the Roof Deck including, without limitation, Building/Roof ingress and egress, Roof penetrations, path(s) of travel, Roof stair/elevator head house(s), electrical service, floor surfaces, planters, lighting, tables seating and/or other furniture, fixtures, plantings, finishes, and personal property to be installed and used in connection with Tenant's use of the Roof Deck shall be constructed, installed, maintained, operated and, if applicable, modified and removed, in a good and first-class manner at all times and at Tenant's sole cost and shall be subject to the approval of Landlord, which approval standard shall be the standard applicable to Alterations as set forth in Article 12, except that for purposes of such Article 12 approval standard, Tenant's Roof Deck alterations or installations shall not be considered to adversely affect the Building's structure or systems solely by virtue of the fact that such alterations or installations may require roof penetrations or other alterations to the structure of the roof and improvements thereon; and further Landlord agrees to reasonably cooperate, at no cost or expense (or delay to Landlord's Work) to Landlord, with Tenant as to modifications to Building/Roof stairhead houses and Building common roof ingress and egress. In connection with the construction and use of the Roof Deck, Tenant shall obtain, maintain and provide to Landlord: (a) all required governmental and quasi-governmental permits, licenses, special zoning variances and authorizations, as required by applicable Legal Requirements, all of which Tenant shall obtain at its own cost and expense (but with Landlord's reasonable cooperation as provided in Article 12); and (b) a policy or certificate of insurance evidencing such insurance coverage as may be reasonably required by Landlord. Subject to the terms and conditions hereof, Tenant shall be responsible, at its sole cost and expense, for removing the Roof Deck and repairing and restoring the Roof (and any other portions of the Building affected thereby including but not limited to Building/Roof ingress and egress, Roof penetrations, path(s) of travel, Roof stair/elevator head house(s) installed by or on behalf of Tenant) at the expiration or termination of the Lease Term unless Landlord elects, in its sole discretion, for same to remain, which election shall be made in writing at least one hundred twenty (120) days prior to the expiration of the Lease Term; provided such discussions may take place earlier. Notwithstanding the foregoing, so long as (v) Tenant is not otherwise in default, beyond any applicable Grace Period, under any of the terms and conditions of this Lease including those relating to the surrender and yield up obligations under the Lease (other than those obligations relating solely to the removal of the Roof Deck); (x) the Roof Deck (including the use, maintenance and operation thereof) is then in full compliance with all Legal Requirements, without the need for further work, updating, permits or approvals, and (y) Landlord has advised Tenant that Landlord or a new tenant of the Building is willing to assume the responsibility and liability to maintain and operate the Roof Deck in accordance with all Legal Requirements (and the terms hereof) following the natural expiration of the Term of this Lease, then Landlord shall reimburse Tenant for fifty percent (50%) of the certified hard costs actually incurred by Tenant in connection with the initial construction of the Roof Deck, up to a maximum reimbursement of \$150,000.00, after deducting therefrom fifty percent (50%) of any of the costs and expenses of the necessary and appropriate repairs and replacements to allow the Roof Deck to continue to be used and operated as provided herein to for an additional five (5) years of useful life; provided Landlord shall have the right to offset or deduct from any reimbursement hereunder any amounts due and owing from Tenant under this Lease. At Landlord's request, Tenant shall provide reasonable back-up and supporting materials evidencing the amount actually incurred by Tenant in connection with the initial construction of the Roof Deck.

(b) Without limiting other applicable provisions relating to the use or occupancy of the Roof Deck: (i) Tenant also shall be responsible, at the Tenant's sole cost and expense, for furnishing, maintaining and replacing any and all tables, furniture, fixtures, plantings and personal property used in connection with the Tenant's use of the Roof Deck and for stacking, removing, and otherwise securing the same whenever Tenant is not using same, during periods of extraordinary weather and for the removal and for storage thereof (within the Premises (or off-site)), and Landlord shall have no responsibility or liability therefor, or for any damage, vandalism, theft, or the like with respect thereof;

(ii) Tenant's use of the Roof Deck shall be at Tenant's sole risk and shall be conducted in compliance with all applicable laws and all governmental rules, regulations, permits and approvals relating thereto; (iii) Tenant and its employees shall abide by, any and all commercially reasonable rules and regulations promulgated in writing by Landlord with respect to the foregoing or otherwise relative to Tenant's use of the Roof Deck, including, without limitation, any such commercially reasonable rules and regulations affecting reasonable hours of operation, occupancy, and/or crowd and noise levels, etc., provided that in the case of any conflict between the express provisions of this Lease and any such rules and regulations, the express provisions of this Lease shall control and Landlord acknowledges that Tenant may use the Roof Deck for Tenant functions and may include provision of beer, wine and liquor in compliance with all state, municipal and other governmental laws, regulations, ordinances and rules with respect thereto; (iv) notwithstanding the exterior location of the Roof Deck, all provisions of this Lease applicable to the Premises shall be applicable to the Roof Deck and the Roof Deck shall for all purposes hereunder be included and considered to be within the Premises, including Tenant's insurance and indemnity obligations, but excepting the purpose of computing the Total Rentable Area of the Premises; and (v) to the maximum extent the following agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186, §15), but subject to Tenant's insurance requirements hereunder and Article 15 and Article 19, Tenant will save Landlord, its agents and employees, harmless and will exonerate, defend and indemnify Landlord, its agents and employees, from and against any and all claims, liabilities, losses, damages or penalties asserted by or on behalf of any person, firm, corporation or public authority arising from the Roof Deck including but not limited to Tenant's use, occupancy, construction, removal, operation or maintenance thereof. No cooking, smoking, open flame, fire pits, space heaters or the like shall be permitted on Roof Deck, nor shall the walls, floors or railing systems thereof be painted or modified by the Tenant without the prior written approval of Landlord, subject to the approval standard set forth in Article 12. Landlord shall have the right to access the Roof Deck from time to time for purposes allowed under this Lease, including the obligation to perform repair and maintenances to the Building, to erect equipment thereon, for its use and the use of the tenants in the Building (e.g., to secure and access window washing equipment (e.g., davits), to clean and repair Roof drains (which must remain accessible), and the like). Landlord, upon reasonable written notice (except in the case of emergency, Building maintenance and repair and the like) shall have the right to require that any and all tables, furniture, fixtures, plantings and personal property used in connection with the Tenant's use of the Roof Deck not be visible in a material manner from any location on the ground in the immediate vicinity of the Building and/or that same be screened and sound attenuated in a manner reasonably satisfactory to Landlord (but, as to Landlord's requirements therefor (as opposed to legal requirements imposed from time to time) Landlord shall not require Tenant to install any screening in addition to the screening approved by Landlord in connection its approval of the plans for the Roof Deck), in each case in Landlord's reasonable discretion and as may be required by applicable legal requirements and that any and all tables, furniture, fixtures, plantings and personal property used in connection with the Tenant's use of the Roof Deck be placed or installed in such a way so as to allow maintenance and repairs to the exterior of the Building from time to time, all in Landlord's reasonable discretion as set forth above.

(c) In the event that Tenant's use of the Roof Deck fails to comply with Landlord's reasonable rules and regulations of which Tenant was provided prior written notice or otherwise so fail to comply with the foregoing and all applicable provisions of this Lease, and such failure continues for five (5) or more business days after (or such shorter period in the event of violation of applicable law or an emergency situation) written notice thereof is given by Landlord to Tenant, then, in any such event, and without limiting Landlord's other rights and remedies on account of the continuation thereof and the resulting default by Tenant thereunder, Landlord shall have the right to take such steps as Landlord reasonably determines to be necessary to remedy such failure, including, without limitation, the right, exercisable by giving written notice thereof to Tenant, immediately to suspend all of Tenant's rights hereunder to use the Roof Deck, until the facts and circumstances giving rise to such failure are resolved to the reasonable satisfaction of Landlord and Landlord and Tenant shall work in good faith to resolve same. Any such suspension of Tenant's rights to use of the Roof Deck in accordance with the foregoing shall not affect this Lease insofar as it relates to the remainder of the Premises; and, without limitation, as no Rent or other charges attributable to the use of the Roof Deck are imposed by the provisions of this Lease, any such suspension of Tenant's rights to use the Roof Deck shall not reduce or otherwise affect the Rent or any other charges and obligations of Tenant pursuant to the provisions of this Lease.

3. TERM OF LEASE

3.1 Definitions. As used in this Lease the words and terms which follow mean and include the following:

(a) "Term Commencement Date" – shall mean the Substantial Completion Date (as defined in Article 4.2(h)).

(b) "Complex" shall mean all of the Building, the other buildings now or in the future, and the Common Areas serving such buildings now or in the future, all located on the land ("Land") shown outlined on Exhibit 3 to be known as Innovation Square (which shall include, without limitation, Phase I and Phase II).

(c) "Common Areas" shall mean the common walkways, accessways, and parking facilities ("Parking Facilities"), located on the land shown on Exhibit 3 ("Land"), a bicycle storage area, the common loading docks, freight elevator, lobbies, hallways, stairways and elevators of the Building, and common facilities (including, without limitation, conference rooms and a fitness facility with showers/restrooms located within the Building and exclusive to the tenants of the Building (the conference rooms and fitness facility, collectively, the "Amenity Center"), subject to Section 8.11 below, which amenities shall be available for use during business days (as defined below) (except that the fitness facility and showers/restrooms shall be accessed using Building access cards), as the same may be changed, from time to time, including without limitation, alleys, sidewalks and streets, lobbies, hallways, toilets, stairways, fan rooms, utility closets, shaftways, street entrances, elevators, wires, conduits, meters, pipes, ducts, vaults, and any other equipment, machinery, apparatus, and fixtures wherever located on the Land, in the Building, the Complex, or in the Premises that either (i) serve the Premises as well as other parts of the Land, Building or Complex, or (ii) serve other parts of the Land, Building or Complex but not the Premises as the same may be changed, from time to time, including without limitation, alleys, sidewalks, lobbies, hallways, toilets, stairways, fan rooms, utility closets, shaftways, street entrances, elevators, wires, conduits, meters, pipes, ducts, vaults, and any other equipment, machinery, apparatus, and fixtures wherever located on the Land, in the Building, the Complex, or in the Premises that either (i) serve the Premises as well as other parts of the Land, Building or Complex, or (ii) serve other parts of the Land, Building or Complex but not the Premises. It is understood and agreed that all use of the fitness center and its facilities shall be at the sole risk of Tenant and the employees using same, and, to the maximum extent this agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186, §15), but subject to Tenant's insurance requirements hereunder and Article 15 and Article 19, Tenant shall release, defend, indemnify and save Landlord harmless against and from any liability, loss, cost, expense, injury, damage, claim or suit resulting directly or indirectly from the use of the fitness center and this indemnity and release shall survive the termination of this Lease.

(d) "Lease Year" shall mean each successive 12-month period included in whole or in part in the Term of this Lease; the first Lease Year beginning on the Term Commencement Date and ending at midnight on the day before the first anniversary of the Term Commencement Date (provided that if the Term Commencement Date is not the first day of a calendar month, the first Lease Year shall end at midnight on the last day of the calendar month which includes the first anniversary of the Term Commencement Date). If the first or last Lease Year of the Term shall be greater or less than one full calendar year, the Yearly Rent for such Lease Year shall be increased or decreased, as the case may be, proportionately to the greater length of such Lease Year.

3.2 Habendum.

TO HAVE AND TO HOLD the Premises for a term of years commencing on the Term Commencement Date and ending at 11:59 p.m. on the last day of the eleventh (11th) Lease Year (which is a partial year) following the Term Commencement Date (as same may be extended in accordance with Section 29.16 below) or on such earlier date upon which said Term may expire or be terminated pursuant to any of the conditions of limitation or other provisions of this Lease or pursuant to law (which date for the termination of the terms hereof will hereafter be called "Termination Date"). Notwithstanding the foregoing, if the Termination Date as stated in Exhibit 1 shall fall on other than the last day of a calendar month, said Termination Date shall be deemed to be the last day of the calendar month in which said Termination Date occurs.

3.3 Declaration Fixing Term Commencement Date.

Landlord and Tenant agree to execute a supplemental agreement confirming the actual Term Commencement Date and Termination Date, once same are determined, in the form set forth at Exhibit 4 or as otherwise may be reasonably required by Landlord. Tenant agrees not to record the within Lease, but each party hereto agrees, on the written request of the other, to execute a so-called memorandum of lease or short form lease in the form attached hereto as Exhibit 14. In no event shall such document set forth the rent or other charges payable by Tenant under this Lease; and any such document shall expressly state that it is executed pursuant to the provisions contained in this Lease and is not intended to vary the terms and conditions of this Lease. If this Lease is terminated before the Term expires, then upon Landlord's written request the parties shall execute, deliver and record an instrument acknowledging such fact and the date of termination of this Lease, and Tenant hereby appoints Landlord its attorney-in-fact in its name and behalf to execute such instrument if Tenant shall fail to execute and deliver such instrument after Landlord's request therefor within ten (10) business days, unless Tenant has notified Landlord of a good faith dispute with such instrument or the dates set forth therein prior thereto.

4. READINESS FOR OCCUPANCY-ENTRY BY TENANT PRIOR TO TERM COMMENCEMENT DATE

4.1 Condition of Premises. Subject to Landlord's obligation to complete Landlord's Work in the condition required by this Lease (as defined below), Tenant shall accept the Premises, the Building and the Complex in their present "as is" condition, without representation or warranty, express or implied, in fact or in law, by Landlord and without recourse to Landlord as to the nature, condition or usability thereof; and Tenant agrees that, except for Landlord's Work, Landlord has no work to perform in or on the Premises to prepare the Premises for Tenant's use and occupancy, and that any and all work to be done in or on the Premises will be performed by Tenant at Tenant's sole cost and expense in accordance with the terms of this Lease.

4.2 Landlord's Work.

(a) Subject to the terms and conditions hereof, Landlord shall Substantially Complete (as defined below) the (i) Base Building Shell Work, and (ii) Tenant Improvement Work (as those terms are more fully defined below) (collectively (i) and (ii), are "Landlord's Work") in a good and workerlike manner, using new or like-new) designed and constructed in accordance with the Base Building Plans and Plans (as those terms are defined below), including but not limited to construction materials, design and finishes set forth thereon, and otherwise in compliance with all legal requirements of general applicability to the Building (including without limitation the Americans with Disabilities Act and all governmental permits and approvals if and to the extent applicable to Landlord's Work, which shall be obtained by Landlord). Landlord shall use commercially reasonable speed and diligence to Substantially Complete the Landlord's Work on or before the Anticipated Term Commencement Date, subject to delays caused by Tenant Delays (as defined below) or event(s) of Force Majeure (as defined below), but, except as set forth in this Subsection (a), in no event shall Landlord be liable to Tenant for any failure to Substantially Complete the Landlord's Work on any specified date, nor shall such failure give rise to any default or other remedies under this Lease or at law or equity, or otherwise affect the validity of this Lease or the obligations of Tenant hereunder. Notwithstanding the foregoing, if the Substantial Completion Date (as hereinafter defined) has not occurred by the date that is thirty (30) days following the Anticipated Term Commencement Date, unless such delay is caused by Tenant Delays or an event of Force Majeure, then Tenant shall be entitled to rent credit equal to one day's rent at the Yearly Rent per diem for each day following such thirtieth (30th) day, until the earlier of (x) Landlord achieving the Substantial Completion Date, or (y) the sixtieth (60th) day following the Anticipated Term Commencement Date as same may be extended as aforesaid; provided, however, that if the Substantial Completion Date has not occurred by the date that is sixty (60) days following the Anticipated Term Commencement Date, unless such delay is caused by Tenant Delays or an event of Force Majeure, then Tenant shall then be entitled to rent credit equal to two day's rent at the Yearly Rent per diem for each day following such sixtieth (60th) day, until Landlord achieves the Substantial Completion Date. The foregoing is intended to be a liquidated reimbursement provision, and Tenant's sole remedy in such case (except as set forth in the following sentence), and not a penalty, and represents the parties' good faith agreement as to an amount which shall have been incurred by Tenant and which shall otherwise not be susceptible of exact ascertainment. In addition, if the Term Commencement Date does not occur on or before the date that is one hundred fifty (150) days after the Anticipated Commencement Date, unless such delay is caused by Tenant Delays or an event of Force Majeure, (as same may be extended as aforesaid, the "Termination Date"), Tenant shall have the right to terminate this Lease by giving notice to Landlord of Tenant's desire to do so before ten (10) business days after the Termination Date; and, upon the giving of such notice, the Term of this Lease shall, unless the Term Commencement Date occurs

within thirty (30) days after Landlord's receipt of such notice, immediately cease and come to an end as of the date that is 30 days after Landlord's receipt of such termination notice from Tenant, and neither party shall have any further liability or obligation on the part of either party, except that Landlord shall, within ten (10) business days of the termination date, return to Tenant the Letter of Credit (as hereinafter defined) and the first monthly of rent that Tenant has paid to Landlord in connection with its execution of this Lease pursuant to Section 6 hereof. Notwithstanding anything to the contrary contained herein, the Anticipated Term Commencement Date and the Termination Date shall be extended by any period of time that Landlord is delayed in the performance of Landlord's Work caused by Tenant Delays or an event of Force Majeure.

(b) As used herein, the term "Base Building Shell Work" shall refer to the base building core and shell work, in accordance with the plans and specifications prepared by, among others, HDR, Inc. ("Landlord's Architect") as currently referenced on Exhibit 10-1 hereto (the "Base Building Plans") as performed by Landlord, at Landlord's sole cost, which includes the delivery of certain systems and conditions to the general quality of the design of the Building as shown on the Base Building Plans. Landlord has submitted the Base Building Plans to Tenant and Tenant has approved the Base Building Plans. As used herein, the term "Tenant Improvement Work" shall mean the leasehold improvements to the Premises to be constructed within the Premises by Landlord in accordance with the Space Plans (as defined below) and the Plans (as defined below) to be prepared in accordance with this Section 4.2 and as detailed and further allocated in the Base Building and TI Matrix attached hereto as Exhibit 10-2, and as further set forth and detailed in the Base Building Plans. Notwithstanding anything in this Section 4.2 to the contrary, the bathrooms located within the Premises shall be part of the Base Building Shell Work and shall be constructed with Building standard materials and finishes and in accordance with the Base Building Plans unless Tenant selects different finishes and materials for such bathrooms located on the fourth (4th) floor of the Building by written notice to Landlord on or before August 1, 2018 setting forth in detail such finishes and materials and, so long as such finishes and materials (and/or the installation thereof) do not result in a long lead time or other delay in Landlord's ability to obtain a temporary certificate of occupancy for base building occupancy (or occupancy by any other tenant, to the extent the costs of such finishes and materials (and/or the installation thereof) selected by Tenant that exceeds the cost of Building standard materials and finishes, such cost shall be included in the cost of the Tenant Improvement Work (as provided herein). Landlord and Tenant shall reasonably and promptly cooperate and coordinate efforts in connection with the sharing of information as to the actual cost of the Base Building Shell Work bathroom finishes and as to the timing and cost of such Tenant-selected finishes. In connection with the Tenant Improvement Work, Tenant agrees to use BR+A for Tenant's mechanical, electrical and plumbing engineer to ensure the efficient coordination of the Base Building Shell Work and the Tenant Improvement Work.

(c) Tenant has prepared and provided to Landlord, and Landlord has approved, a space plan and outline specifications (the "Space Plans") for the layout of the Tenant Improvement Work within the Building. The Tenant Improvement Work shall be delivered in Turn-Key Condition (as defined below). As used herein, "Turn-Key Condition" shall mean the condition required by the Base Building Plans and the final Plans, prepared and approved as provided below, but in no event shall the Tenant Improvement Work include Tenant's furniture, trade fixtures, equipment, personal property, data or communications cabling, specialty or laboratory equipment except as may be expressly agreed in writing and set forth thereon.

(d) Based upon the approved Space Plans, Tenant shall promptly prepare and provide to Landlord, for Landlord's approval as provided herein, a complete set of plans and specifications sufficient to apply for and obtain a building permit for the construction of the Tenant Improvement Work (the "Permit Set"). The Permit Set must conform to the approved Space Plans, the Base Building Shell Work and the Base Building Plans in all material respects and be limited to the general quality of the design shown therein. Landlord's approval of the Permit Set shall not be unreasonably withheld, conditioned or delayed as long as same are not Material Changes. Within five (5) days of receipt, Landlord shall give Tenant written notice either (a) approving the Permit Set or (b) disapproving the Permit Set (with highlighted changes thereon and a detailed list of the deficiencies in the Permit Set). If Landlord disapproves the Permit Set, then, within five (5) days after Landlord gives Tenant notice of such disapproval, Tenant shall revise the Permit Set and resubmit the Permit Set to Landlord for approval. Within five (5) days after Tenant's resubmission to Landlord of the revised Permit Set, Landlord shall give Tenant notice either (I) approving the revised Permit Set or (II) disapproving the revised Permit Set, in which case Landlord, in such written notice, shall provide Tenant with detailed direction as to the modifications required to be made for Landlord to grant Landlord's approval to the Permit Set. The foregoing iterative process (and timing) set forth in this Section 4.2(d) shall continue in good

faith until Landlord approves the Permit Set, which shall be the final Permit Set. Tenant hereby acknowledges and agrees that if Landlord and Tenant fail to approve the final Permit Set on or prior to August 31, 2018, for any reason whatsoever, then such failure shall be deemed to be a Tenant Delay (and Tenant shall be responsible for the cost and schedule impact therefor), unless caused solely by Landlord's failure to act reasonably as aforesaid or to respond to any submittals as expressly required hereunder. In addition, Tenant acknowledges and agrees that if the City of Boston Inspectional Services Department ("ISD") has not approved the final Permit Set on or prior to September 30, 2018, then such failure shall be deemed to be an Event of Force Majeure, unless such approval delay was caused by the failure of the Permit Set to be in such form as to quality and detail as typically required by ISD in which event same shall be a Tenant Delay.

(e) Based upon the approved Permit Set Tenant shall promptly prepare and provide to Landlord, for Landlord's approval as provided herein, 100% construction drawings (representing a complete set of final plans and specifications), sufficient to permit the construction of the Tenant Improvement Work (the "Plans"). The Plans must conform to the Permit Set, the Base Building Shell Work and the Base Building Plans in all material respects and be limited to the general quality of the design shown therein.. Landlord's approval of the Plans shall not be unreasonably withheld, conditioned or delayed as long as same are not Material Changes. Within ten (10) days of receipt, Landlord shall give Tenant written notice either (a) approving the Plans or (b) disapproving the Plans (with highlighted changes thereon and a detailed list of the deficiencies in the Plans). If Landlord disapproves the Plans, then, within five (5) days after Landlord gives Tenant notice of such disapproval, Tenant shall revise the Plans and resubmit the Plans to Landlord for approval. Within five (5) days after Tenant's resubmission to Landlord of the revised Plans, Landlord shall give Tenant written notice either (I) approving the revised Plans or (II) disapproving the revised Plans, in which case Landlord, in such notice, shall provide Tenant with detailed direction as to the modifications required to be made for Landlord to grant Landlord's approval to the Plans. The foregoing iterative process (and timing) set forth in this Section 4.2(e) shall continue in good faith until Landlord approves the Plans, which shall be the final Plans. Tenant hereby acknowledges and agrees that if Landlord and Tenant fail to approve the final Plans on or prior to September 22, 2018, for any reason whatsoever, then such failure shall be deemed to be a Tenant Delay (and Tenant shall be responsible for the cost and schedule impact therefor), unless caused solely by Landlord's failure to act reasonably as aforesaid or to respond to any submittals as expressly required hereunder.

(f) Promptly following Landlord's approval (but in any event within twenty (20) days thereafter) of each of the Space Plans and the Permit Set, as the case may be, Landlord shall deliver to Tenant an estimate of the costs to complete Tenant Improvement Work, including a construction or project management fee payable to Landlord of three percent (3.0%) of the hard costs of the Tenant Improvement Work, (each, an "Estimate"). Tenant shall review and approve same, subject to the terms hereof, within ten (10) days of submission; provided, however, Tenant shall have the right, exercised promptly and in good faith, to discuss and request substitutions to value-engineer or cost-engineer aspects of the work set forth on the Space Plans and the Permit Set, as the case may be, during the review and approval process for each set of plans as provided above, in order to adjust the budget of the Tenant Improvement Work, subject to the terms and conditions hereof, in which case Landlord and Tenant shall work diligently and in good faith to complete such value-engineering iterative process and produce a mutually acceptable Estimate within such period, or such longer period as may be reasonably necessary. Throughout the approval process described above, each party shall use commercially reasonable and diligent efforts to cooperate with the other and the other's architect and professionals in responding to questions or requests for information or submissions. Tenant understands and agrees, however, that changes to the Space Plans, the Permit Set or the Plans that may be needed or desired by Tenant, and or the specification by Tenant of any components or finishes that are not building standard or as expressly depicted on the Space Plans, the Permit Set or Plans, shall be subject to Landlord's prior written approval, which shall not be unreasonably withheld or delayed as long as same are not Material Changes. As used herein, the term "Material Changes" as used herein are (i) changes that, individually or in the aggregate, modify the scope, cost or character of the Base Building Shell Work, except in any de minimis respect, or any material component thereof from that set forth in the Base Building Plans, or any then existing permits and approvals obtained by Landlord in connection with Landlord's Work or the Building; (ii) changes that will, individually or in the aggregate, in Landlord's reasonable opinion, result in a likelihood of delay in the Substantial Completion of Landlord's Work; (iii) adversely affect by more than a *de minimis* amount the Building's structure, roof, or exterior or any mechanical, electrical, plumbing, life safety or other Building Systems (as hereinafter defined) or architectural design or use of the Building or Premises or otherwise involve changes to structural components of the Building or involves any changes or penetrations to the floor, roof, or exterior walls; (iv) require any material modifications of

the Building's mechanical, electrical, plumbing, fire or life-safety systems; (v) lessen the fair market value of the Landlord's Work, the Building or the Premises or any other improvements in the Complex; and/or (vi) adversely affect the LEED certifiability of the Building or any improvements therein or any LEED or similar certifications previously obtained with respect to the Building or any improvements therein. If Landlord approves such change request (whether a Material Change or not), then before commencing work on such requested change or upgrade, Landlord will submit to Tenant written estimates of the net cost thereof (taking into account the Improvement Allowance applicable to the Tenant Improvement Work) and any increase in the time in performing Landlord's Work resulting therefrom. If Tenant shall fail to approve such estimates within ten (10) days after submission to Tenant, the request shall be deemed withdrawn by Tenant and Landlord shall not be required to proceed with such work and may continue with Landlord's Work without further change relating thereto. If Tenant approves such estimates, the cost of such change in the Tenant Improvement Work shall be added to, or deducted from, the budget for the Tenant Improvement Work and shall be paid in accordance with Section 4.2(j), which shall include all applicable fees including, without limitation construction management fee for hard costs set forth above, general contractor's fees or increase in general conditions. If any such Tenant's proposed request (whether a Material Change or not) increases the time required to complete Landlord's Work then same shall be considered a Tenant Delay (as defined below) and no such work shall commence unless Tenant agrees that the Substantial Completion Date (and the Term Commencement Date) shall be deemed to have occurred as of the date Landlord would have otherwise achieved Substantial Completion the Tenant Improvement Work, but for Tenant's request.

(g) Following the completion and approval of the applicable plans and final estimate, Landlord shall proceed to engage Tenant's design team and contractors, and to obtain all necessary permits and approvals for the construction of Landlord's Work, to engage a contractor or construction manager to perform or supervise the construction and proceed to construct Landlord's Work at Landlord's sole cost and expense subject to the Improvement Allowance applicable to the Tenant Improvement Work (and Tenant's obligation to pay any amounts in excess thereof as set forth below) and as otherwise set forth herein, in substantial conformance with the Plans and in accordance with Section 4.2(a) above. Landlord reserves the right to make changes and substitutions to the Base Building Plans and the Plans in connection with the construction of Landlord's Work, provided same do not materially adversely modify (i) the Tenant Improvement Work or the cost thereof or the estimated time to construct and delivery same (except with respect to a Tenant Delay as provided herein), (ii) Tenant's access to or use of the Premises for the Permitted Use upon delivery thereof to Tenant, or (iii) the specified utility and HVAC capacities specified in the Base Building Plans or the final Plans, and Tenant agrees to not unreasonably withhold or delay its consent to any changes that do not materially adversely modify the Plans. Landlord's Work will be constructed by Consigli Construction Company ("Contractor").

(h) The Tenant Improvement Work (and the applicable components of Base Building Shell Work required for Tenant's use and occupancy of the Premises, including but not limited to all Common Laboratory Facilities and Common Areas necessary and appropriate for Tenant's use thereof for the Permitted Use and the Amenity Center) shall be deemed "Substantially Complete" on the date (the "Substantial Completion Date") as of which: (i) a completed or "signed-off" building permit or a certificate of occupancy (temporary or permanent) permitting the use of the Premises is available from the City of Boston Inspectional Services Department (the "Certificate of Occupancy"); provided, however, any conditional Certificate of Occupancy shall not impose conditions relating to Landlord's obligations hereunder (e.g., Landlord's Work) that materially interfere with Tenant's use and occupancy of the Premises for the Permitted Use and Landlord shall obtain a final Certificate of Occupancy for the Premises in the ordinary course (subject to Tenant completing any items of work or requirements that are not part of Landlord's Work); (ii) all Building Systems serving the Premises are in good working order, condition, and repair; (iii) the Premises and the Common Areas serving the Premises are in compliance with all legal requirements of general applicability to the Complex (including without limitation the Americans with Disabilities Act and all governmental permits and approvals if and to the extent so applicable, which shall be obtained by Landlord); and (iv) The Tenant Improvement Work (and the applicable components of Base Building Shell Work required for Tenant's use and occupancy of the Premises) are substantially complete, except for the Punchlist Work (as hereinafter defined), which shall be set forth on the Punchlist (as hereinafter defined), subject only to the completion of Punchlist Work (defined below). Notwithstanding the foregoing, if any delay in the Substantial Completion of the Landlord's Work by Landlord is due to Tenant Delays, then the Substantial Completion Date shall be deemed to be the date Landlord's Work (or applicable portion thereof) would have been Substantially Complete, if not for such Tenant Delays, as reasonably determined by Landlord. "Tenant Delays" shall mean delays caused by: (i)

requirements of the Space Plans or Plans requested by Tenant that do not conform to Landlord's building standards for build out, or which contain long lead-time or non-standard items requested by Tenant; (ii) any Material Change in the Space Plans or Plans, once approved, requested by Tenant; (iii) any written request by Tenant for a delay in the commencement or completion of Landlord's Work for any reason; or (iv) any other act or omission of Tenant or its employees, agents or contractors, including any failure by Tenant to timely respond to plan submissions and approvals for the Tenant Improvement Work pursuant to the iterative process described in Sections 4.2(c) through (f), which reasonably inhibits the Landlord from timely completing the Landlord's Work, and which continues for more than three (3) business days following Landlord's notice to Tenant thereof. To the extent any Tenant Delay causes or is likely to cause a delay in the issuance of Landlord's base Building Certificate of Occupancy or Temporary Certificate of Occupancy, Tenant understands that such a Tenant Delay may result in a delay due to a necessary reallocation of Base Building Shell Work in order to obtain such base Building Certificate of Occupancy or Temporary Certificate of Occupancy for the Building and any such delay hereunder resulting therefrom shall also be considered a Tenant Delay (e.g., the impact of a Tenant Delay would necessitate the rescheduling of component(s) of Landlord's Work to avoid a delay in the completion or performance of a component of Base Building Shell Work necessary to obtain a Temporary Certificate of Occupancy inspection or sign-off and such delay would be a Tenant Delay). For purposes hereof, "Punchlist Work" is defined as minor or insubstantial incomplete work or details or defects of construction, decoration or mechanical adjustments that do not unreasonably interfere Tenant's ability to use or occupy the Premises for the Permitted Use. If as a result of Tenant Delays the Substantial Complete Date is deemed to have occurred, but the Premises are not in fact actually ready for Tenant's occupancy, Tenant shall not (except with Landlord's consent not to be unreasonably withheld, conditioned or delayed) be entitled to take possession of the Premises for the Permitted Use until the Premises are in fact actually ready for such occupancy.

(i) Within fourteen (14) business days after the Term Commencement Date or earlier if practical, Landlord and Tenant shall confer and create a specific list of any Punchlist Work remaining items of work with respect to the Tenant Improvement Work including those portions of Landlord's Work relating thereto including but not limited to the Base Building Shell Work (including the Common Laboratory Facilities and Common Areas) (a "Punchlist") which Punchlist Work shall be completed as soon as reasonably practicable, with Landlord endeavoring to complete same within thirty (30) days following the Substantial Completion Date; provided, however, that if any item of Punchlist Work is not completed within forty-five (45) days of the creation of the Punchlist, Landlord shall provide Tenant with a detailed description of the item to be completed, reason for such completion delay and the estimate of such completion. Subject to Landlord's continuing repair and maintenance obligations hereunder and to Section 4.5 below and to Landlord's warranty obligations in this Section 4.2(i), except with respect to the items contained in the Punchlist or items that are not readily observable or hidden (i.e., latent) defects even upon exercise of reasonable diligence, Tenant shall be deemed satisfied with the Tenant Improvement Work including those portions of Landlord's Work relating thereto, and Landlord shall be deemed to have completed all of its obligations under this Section 4.2 and Tenant shall have no claim that Landlord has failed to perform in full its obligations hereunder. In addition, Tenant shall have the benefit of the construction warranty with respect to defects to Landlord's Work brought to Landlord's attention within the Landlord's Warranty Period (as defined below). Landlord shall warrant for a period of twelve (12) months after the Substantial Completion Date (or thereafter while Landlord has the benefit of a guarantee or warranty for such work) ("Landlord's Warranty Period") that the Tenant Improvement Work and the applicable components of the Base Building Shell Work relating thereto have been constructed in a good and workerlike manner and free of material defects. In addition, Landlord shall either assign, to the extent assignable, the warranties and guaranties applicable to or for any appliances and equipment exclusively serving the Premises (and part of the Tenant Improvement Work) and/or use commercially reasonable and diligent efforts to enforce such warranties and guaranties (and any other warranties and guaranties applicable to the Premises) in connection therewith for the benefit of Tenant.

(j) Landlord shall pay the costs and expenses incurred by Landlord in connection with the performance and completion of the Tenant Improvement Work in accordance with the Plans in an amount up to but in no event more than the Improvement Allowance as set forth in Exhibit 1 above (the "Improvement Allowance"). The Improvement Allowance may not be used for any furniture, personal property, movable equipment, or data or telecommunications cabling. Landlord may include within the Improvement Allowance all reasonable, third party, actual out-of-pocket costs and expenses incurred by or on behalf of Landlord in connection with the Tenant Improvement Work (but not the Base Building Shell Work, except as set forth in Exhibit 10-2) including without limitation, all design, review, permitting, bid preparation and bid review, construction, materials and supplies, and

including a construction or project management fee payable to Landlord of three percent (3%) of the hard costs of the Tenant Improvement Work; provided, however, that Landlord shall not charge Tenant for any BR+A "MEP" review for the interface and interconnection of the Tenant Improvement Work with the Base Building Shell Work. Landlord shall use the Improvement Allowance to pay for, credit, and offset all of the hard and/or soft costs and expenses in connection with the Tenant Improvement Work as aforesaid. Any costs of the Tenant Improvement Work that are in excess of the Improvement Allowance incurred by Landlord shall be the sole responsibility of Tenant and Tenant shall be responsible for and promptly (but in no event longer than thirty (30) days after request therefor) pay directly or pay to Landlord for, as appropriate, and indemnify and reimburse Landlord for, from and against, any costs and expenses for the Tenant Improvement Work in excess of the Improvement Allowance including, but not limited to, such costs resulting from Tenant's upgrades from building standard construction materials or Tenant's upgrades or changes to any of Landlord's Work or the Plans or specifications relating thereto. To the extent the total costs and expenses of the Tenant Improvement Work are less than the Improvement Allowance, there shall be no credit, rebate or other payment to Tenant as a result thereof. At Landlord's option, at any time following the completion and approval of the Plans, Landlord shall deliver to Tenant an estimate of the costs to complete the Tenant Improvement Work (the "Estimate") and at least ten (10) days prior to commencement of construction of the Tenant Improvement Work, Tenant shall pay, subject to a commercially reasonable escrow arrangement (with Landlord and Tenant acknowledging that East Boston Savings Bank is an acceptable escrow agent therefor), as Additional Rent, the amount by which the Estimate exceeds the Improvement Allowance as set forth herein (the "Excess Payment"). The cost of the Tenant Improvement Work shall be disbursed and paid on a *pari passu* basis with Landlord contributing its proportionate share of the Improvement Allowance and Tenant's contribution being deducted from the Excess Payment held in escrow. Within sixty (60) days (or such longer period as reasonably necessary) of the Substantial Completion Date, defined below, Landlord shall provide Tenant with a statement setting forth the actual costs of Tenant Improvement Work and (i) if the actual costs are less than the sum of the Estimate and the Excess Payment, Landlord shall credit such amount, up to a maximum of the Excess Payment, against future payments of Yearly Rent or (ii) if the actual costs are greater than the sum of the Estimate and the Excess Payment, Tenant shall pay to, reimburse and/or indemnify, as the case may be, Landlord for or from the difference, as Additional Rent, within thirty (30) business days after the receipt of such statement. The completion of the Tenant Improvement Work shall be conducted on a so-called "open book" basis meaning that Landlord shall share and consult with Tenant, upon request, regarding the costs and expenses relating to the completion of the Tenant Improvement Work. In connection with any materials or services to be provided directly by or on behalf of Tenant (as opposed to Landlord), Tenant shall make provision for written waivers of liens from all contractors, laborers and suppliers of materials for such work, or other reasonably appropriate protective measures reasonably approved by Landlord. Upon reasonable notice of at least two (2) business days, Landlord shall permit Tenant to review Landlord's invoices and statements and books and records relating to the completion of the Tenant Improvement Work.

(k) Supplemental Allowance. Landlord will make available to Tenant an additional allowance up to the amount as set forth in Exhibit 1 above (the "Supplemental Allowance") for the payment of Tenant's fit-up and space planning services relating to the Tenant Improvement Work. The Supplemental Allowance shall be paid to Tenant in one (1) lump sum payment following Landlord's receipt of (a) paid third party invoices (with satisfactory evidence of payment and other supporting material) for the design, engineering and/or project management services incurred by Tenant for the Tenant Improvement Work, and (b) if requested by Landlord, lien waivers reasonably satisfactory to Landlord from the project manager or any others performing the work or supplying the labor or material.

(l) Tenant hereby appoints Jeff Stevens as the authorized representative of Tenant for purposes of dealing with Landlord and its agents with respect to all matters involving, directly or indirectly, the construction of the Tenant Improvement Work including, without limitation, change orders to the Space Plans or Plans (such person is hereinafter referred to as "Tenant's Representative"). Landlord hereby appoints Chris Murphy, as the authorized representative of Landlord for purposes of dealing with Tenant and its agents with respect to all matters involving, directly or indirectly, the construction of Base Building Shell Work, the Tenant Improvement Work, or the Space Plans, or the Plans (such person is hereinafter referred to as "Landlord's Representative").

(m) All components of the Tenant Improvement Work shall be part of the Building, except only for such items as Landlord advises in writing to Tenant that same shall be removed by Tenant on the termination of this Lease (such writing to be provided to Tenant at the time of Landlord's applicable approval of the plans and specifications therefor) that same shall be removed by Tenant on the termination of this Lease (which items shall include, by way of example and not limitation internal staircases unless Landlord elects, in its sole discretion, for same to remain, which election shall be made in writing at least one hundred twenty (120) days prior to the expiration of the Lease Term). Notwithstanding the forgoing, those items of personal property, trade fixtures and equipment to be set forth on Exhibit 15 attached hereto, which may be updated from time to time to include such items, and those articles of personal property, including but not limited to copiers and computers; unattached laboratory and specialty equipment; unattached casework; bottle washers; autoclaves; telecommunications equipment; cabling; and any equipment or utility connections necessary for the function of the foregoing, owned or installed by or for Tenant solely at its expense (i.e., and not paid for by the Improvement Allowance or the Supplemental Allowance) in the Premises ("Tenant's Removable Property") shall remain the property of Tenant and may be removed by Tenant at any time prior to the expiration or earlier termination of the Lease, subject to Tenant's repair and restoration obligations in this Lease. For the purposes of clarity, Landlord and Tenant acknowledge and agree that any component of the Tenant Improvement Work or Tenant's Removable Property that is paid for by or on behalf of Landlord (e.g., by way of the Improvement Allowance, the Supplemental Allowance, etc.) shall remain with the Building upon the termination or expiration of the Lease Term except to the extent advised by Landlord in writing at the time of approval of the Plans including such component(s) to the contrary as set forth above.

4.3 Tenant's Early Entry.

Provided that Tenant does not interfere with or delay the completion by Landlord or its agents or contractors of Landlord's Work, Tenant shall have the right to enter the Premises up to thirty (30) days prior to the Anticipated Term Commencement Date for the purpose of installing furniture, trade fixtures, equipment, telecommunication equipment and cabling, and similar items and such entry shall be made in compliance with, and subject to, all terms and conditions of this Lease (except as set forth herein) and the Rules and Regulations then in effect for the Building and shall be coordinated with Landlord's building manager. Tenant shall be liable for any damages or delays caused by Tenant's activities at the Premises. Provided that Tenant has not begun operating its business from the Premises, and subject to all of the terms and conditions of the Lease, the foregoing activity shall not constitute the delivery of possession of the Premises to Tenant and the Lease term shall not commence as a result of said activities. Prior to entering the Premises Tenant shall obtain all insurance it is required to obtain by the Lease and shall provide certificates of said insurance to Landlord and shall have provided the Letter of Credit to Landlord. Tenant shall coordinate such entry with Landlord's building manager.

4.4 Tenant's Work.

Tenant shall perform, at its expense, and subject to the terms and conditions of this Lease, the work and installations (other than Landlord's Work) necessary or desirable for Tenant to operate at the Premises ("Tenant's Work"). Tenant shall be liable for any damages or delays caused by Tenant's activities at the Premises in connection with Tenant's Work.

4.5 Conclusiveness of Landlord's Performance. Subject to Section 4.2(i) above and to Landlord's maintenance and repair obligations hereunder, Tenant shall be conclusively deemed to have agreed that Landlord has performed all of its obligations under this Article 4 unless not later than the end of the first calendar month next beginning after the Term Commencement Date Tenant shall give Landlord written notice specifying the respects in which Landlord has not performed any such obligation.

5. USE OF PREMISES

5.1 Permitted Use.

Tenant shall during the Term hereof occupy and use the Premises only for the purposes as stated in Exhibit 1 and for no other purposes. Service and utility areas (whether or not a part of the Premises) shall be used only for the particular purpose for which they were designed. Notwithstanding the foregoing, but subject to the other terms and provisions of this Lease, Tenant may, with Landlord's prior written consent, which consent shall not be unreasonably withheld, conditioned, or delayed, install at its own cost and expense so-called hot-cold water fountains, coffee makers

and so-called Dwyer refrigerator-sink-stove combinations for the preparation of beverages and foods (or such other installations as indicated on the Plans for the Tenant Improvement Work), provided that no cooking, frying, etc., are carried on in the Premises to such extent as requires special exhaust venting, Tenant hereby acknowledging that the Building is not engineered to provide any such special venting.

In addition, subject to the terms and conditions hereof (including the plan review process described above and Article 12 below), Tenant shall have the right, at its sole risk, cost and liability, to construct and operate a vivarium in connection with its operations at the Premises. The vivarium permitted to be operated shall be located in the designated portion of the Premises as shown on the Plans (or in subsequent plans for Alterations (as defined below)) and shall be used for biopharmaceutical research and development and for the handling, research, and testing of rodents only (the "Permitted Animals") in connection therewith, and for no other purpose or use. If Tenant proposes to use any animals other than the Permitted Animals in its operations, it shall first obtain the prior written consent of Landlord, which consent Landlord shall not unreasonably withhold, condition, or delay. Animal testing, solely of Permitted Animals, shall be permitted subject to the following: (a) all testing shall be conducted in strict compliance with all applicable governmental rules and regulations and with good scientific and medical practice; (b) all dead animals, any part thereof or any waste products related thereto, shall be disposed of, at Tenant's sole cost and expense, in strict compliance with all applicable governmental rules and regulations and with good scientific and medical practice; (c) no odors, noises or any similar nuisance shall be permitted to emanate from or permeate beyond the Premises; and (d) Tenant's use of the vivarium shall not interfere with the peaceable and quiet use and enjoyment by other tenants or occupants of the Building of their respective premises in the Building. Tenant shall procure and deliver to Landlord copies of all necessary permits and approvals necessary for the use and operation of the vivarium and the keeping of Permitted Animals before allowing any actual Permitted Animals into the Premises and shall maintain such permits and approvals during the Lease term. Tenant shall defend, save harmless, exonerate and indemnify Landlord from all injury, claim, loss or damage to any person or property occasioned by or growing out of the use and operation of the vivarium and the presence of the Permitted Animals in and about the Premises; provided, however, that the foregoing indemnity and/or Subsection (d) shall not include or apply to acts of protest, objection, etc. by or on behalf of individuals or groups relating to Tenant's use of the vivarium otherwise in compliance with this provision.

5.2 Prohibited Uses.

Notwithstanding any other provision of this Lease, Tenant shall not use, or suffer or permit the use or occupancy of, or suffer or permit anything to be done in or anything to be brought into or kept in or about the Premises or the Building or any part thereof (including, without limitation, any materials, appliances or equipment used in the construction or other preparation of the Premises and furniture and carpeting): (a) which would violate any of the covenants, agreements, terms, provisions and conditions of this Lease or the Rules and Regulations; (b) for any unlawful purposes or in any unlawful manner; (c) which, in the reasonable judgment of Landlord shall in any way (i) impair the appearance of the Building; or (ii) impair, interfere with or otherwise diminish the quality of any of the Building services or the proper and economic heating, cleaning, ventilating, air conditioning or other servicing of the Building or Premises, or with the use or occupancy of any of the other areas of the Building, or occasion discomfort, inconvenience, or injury or damage to any occupants of the Premises or other tenants or occupants of the Building; (iii) which is inconsistent with the maintenance of the Building as a comparable first-class life science buildings in the Seaport District of Boston, Massachusetts (including laboratory); or (iv) which would violate any exclusive use or right granted by Landlord to any tenant or occupant of the Building in effect as of the date of this Lease and of which Landlord has provided Tenant prior written notice. As of the date of this Lease, the current exclusive use rights granted in the Building are as follows ("Current Exclusive"): in no event shall Tenant or any party taking by or through Tenant use (or allow or allow the use of) the Premises (or any portion thereof) for the primary and principal commercial business purpose of leasing, licensing or granting occupancy rights and licenses to unrelated, third party biotechnology or life science users or to similar third party users for service extensions for third party manufacturing, diagnostics, vivarium, engineering electronics and/or medical services, including but not limited to commercial, pay-for-service incubator, accelerator, shared-community space, self-service and/or demonstration and pilot facilities, and any violation of the foregoing that does not cease within ten (10) business days after written notice from Landlord shall constitute an incurable Event of Default hereunder; provided, however, that the foregoing shall not apply to (x) Tenant (or any party taking by or through Tenant) using the Premises to conduct or perform third party testing, laboratory work or services for or with other parties, such as an independent testing firm or research company, (y) Tenant (or any party taking by or through Tenant) using the Premises to perform research, diagnostics, manufacturing

or other related services for third parties on a contract or other basis, or (z) Tenant (or any party taking by or through Tenant) allowing the Premises to be used by their affiliates, subsidiaries, clients, partners, venturers, spin-offs and the like to share laboratory or other space or services so long as the sharing of such space or services, as opposed to the relationship with such entities, is not the primary and principal business of such tenant or occupant. Tenant shall not install or use any electrical or other equipment of any kind which causes any such impairment, interference, discomfort, inconvenience or injury to any other tenant or occupant of the Building.

5.3 Licenses and Permits. Tenant shall not cause or permit the Premises, the Building or the Complex to be used in any way that violates any law, code, ordinance, restrictive covenant, encumbrance, governmental regulation, order, permit, approval, variance, covenants or restrictions of record or any provision of the Lease (each a "Legal Requirement"), interferes with the rights of tenants of the Building, or constitutes a nuisance or waste. Tenant shall obtain, maintain and pay for all permits and approvals and shall promptly take all actions necessary to comply with all Legal Requirements, including, without limitation, the Occupational Safety and Health Act, applicable to Tenant's use of the Premises, the Building or the Complex. Tenant shall maintain in full force and effect all certifications or permissions to provide its services required by any authority having jurisdiction to authorize, franchise or regulate such services. Tenant shall be solely responsible for procuring and complying at all times with any and all necessary permits and approvals directly or indirectly relating or incident to: the conduct of its activities on the Premises; its scientific experimentation, transportation, storage, handling, use and disposal of any chemical or radioactive or bacteriological or pathological substances or organisms or other hazardous wastes or environmentally dangerous substances or materials or medical waste or animals or laboratory specimens. Within ten (10) days of a written request by Landlord, which request shall be made not more than once during each period of twelve (12) consecutive months during the Term hereof, unless otherwise requested by any mortgagee of Landlord, Tenant shall furnish Landlord with copies of all such permits and approvals that Tenant possesses or has obtained together with a certificate certifying that such permits are all of the permits that Tenant possesses or has obtained with respect to the Premises. Tenant shall promptly give written notice to Landlord of any written warnings or violations relative to the above received from any federal, state or municipal agency or by any court of law and shall promptly cure the conditions causing any such violations. Tenant shall not be deemed to be in default of its obligations under the preceding sentence to promptly cure any condition causing any such violation in the event that, in lieu of such cure, Tenant shall contest the validity of such violation by appellate or other proceedings permitted under applicable law, provided that: (a) any such contest is made reasonably and in good faith, (b) Tenant makes provisions, including, without limitation, posting bond(s) or giving other security, reasonably acceptable to Landlord to protect Landlord, the Building and the Complex from any liability, costs, damages or expenses arising in connection with such violation and failure to cure, (c) Tenant shall agree to indemnify, defend (with counsel reasonably acceptable to Landlord) and hold Landlord harmless from and against any and all liability, costs, damages, or expenses arising in connection with such condition and/or violation, (d) Tenant shall promptly cure any violation in the event that its appeal of such violation is overruled or rejected, and (e) Tenant's decision to delay such cure shall not, in Landlord's sole but good faith determination, be likely to result in any actual or threatened bodily injury, property damage, or any civil or criminal liability to Landlord, any tenant or occupant of the Building or the Complex, or any other person or entity.

6. RENT

During the Term of this Lease, the Yearly Rent and other charges due from Tenant hereunder, at the rate stated in Exhibit 1, shall be payable by Tenant to Landlord by monthly payments, as stated in Exhibit 1, in advance and without notice or demand on the first day of each month for and in respect of such month. The rent and other charges reserved and covenanted to be paid under this Lease shall accrue and commence on the Term Commencement Date, subject to the Abated Rent Period. Notwithstanding the provisions of the immediately preceding sentence, Tenant shall pay the first monthly installment of rent at least three (3) months prior to the Term Commencement Date. If, by reason of any provisions of this Lease, the rent reserved hereunder shall commence or terminate on any day other than the first day of a calendar month, the rent for such calendar month shall be prorated. The rent and all other amounts payable to Landlord under this Lease shall be payable to Landlord, or if Landlord shall so direct in writing, to Landlord's agent or nominee, in lawful money of the United States which shall be legal tender for payment of all debts and dues, public and private, at the time of payment, at the Rent Payment Address set forth in Exhibit 1 or such place as Landlord may designate, and the rent and other charges in all circumstances shall be payable without any setoff or deduction whatsoever, except as expressly provided in this Lease. Rental and any other sums due hereunder not paid

on or before the date due shall bear interest for each month or fraction thereof from the due date until paid computed at the annual rate of five percentage (5%) points over the so-called prime rate then currently from time to time charged to its most favored corporate customers by the largest national bank (N.A.) located in the city in which the Building is located, or at any applicable lesser maximum legally permissible rate for debts of this nature. Notwithstanding the foregoing, Landlord shall waive the aforesaid interest charge as to any such late payment so long as Tenant is not otherwise in default of its obligations under this Lease (beyond any applicable notice or cure period) and such payment is made within five (5) business days following any required written notice to Tenant that such payment is past due and Tenant has not been more than five (5) business days late in paying any other amount due Landlord hereunder within the calendar year in which such late payment has occurred.

7. RENTABLE AREA

Total Rentable Area of the Premises and the Building are agreed to be the amounts set forth in Exhibit 1. Landlord shall have no right to remeasure the Premises or the Building except for alterations to the Premises or the Building, as the case may be, that alter the rentable area thereof.

8. SERVICES FURNISHED BY LANDLORD

8.1 Electric Current.

(a) The electrical service (e.g., lights, plugs, equipment, convenience outlets, and heating, air-conditioning, ventilation fixtures and equipment initially installed in the Premises and all other systems exclusively serving the Premises) serving the Premises originally demised hereunder shall be either separately metered or sub or check metered, as part of the Tenant Improvement Work, to measure Tenant's consumption of electricity. If such electrical service is separately metered, Tenant shall pay directly to the utility supplier all directly billed electrical service charges before delinquency. If such electrical service is sub or check metered, Landlord shall calculate the electrical service charge based on Tenant's actual usage of electricity and Tenant shall pay same to Landlord, as Additional Rent, within thirty (30) days of billing therefor. Landlord shall ensure that, upon delivery, the Premises shall be supplied with electrical service consistent with that shown on Exhibit 10-2 attached hereto throughout the Lease Term, subject to the terms and conditions hereof (e.g., event(s) of Force Majeure, casualty or condemnation).

(b) If such electrical service is sub or check metered, Landlord may elect to collect the electrical service charge due hereunder in monthly estimated payments (as reasonably estimated by Landlord from time to time), due at the same time and in the same manner that it pays its monthly payments of Yearly Rent hereunder, estimated payments (i.e., based upon Landlord's reasonable estimate) on account of Tenant's obligation to reimburse Landlord for electricity consumed in the Premises. Periodically after the Term Commencement Date, but in any event at least once in any twelve (12) month period during the Term, Landlord shall determine the actual cost of electricity consumed by Tenant in the Premises (i.e., by reading Tenant's sub-meter and by applying the applicable electric rate). If the total of Tenant's estimated monthly payments on account of such period is less than the actual cost of electricity consumed in the Premises during such period, Tenant shall pay the difference to Landlord within thirty (30) days of billing therefor. If the total of Tenant's estimated monthly payments on account of such period is greater than the actual cost of electricity consumed in the Premises during such period, Tenant may credit the difference against its next installment of rental or other charges due hereunder, or may request that Landlord pay such amount to Tenant in which case Landlord shall so pay to Tenant within thirty (30) days after Tenant's written request therefor. After each adjustment, as set forth in Paragraph (a) above, the amount of estimated monthly payments on account of Tenant's obligation to reimburse Landlord for electricity in the Premises shall be adjusted based upon the actual cost of electricity consumed during the immediately preceding period.

(c) If Landlord is furnishing Tenant electric current hereunder, Landlord, at any time, at its option and upon not less than sixty (60) days' prior written notice to Tenant, may discontinue such furnishing of electric current to the Premises; and in such case Tenant shall contract with the company supplying electric current for the purchase and obtaining by Tenant of electric current directly from such company. In the event Tenant itself contracts for electricity with the supplier, pursuant to Landlord's option as above stated, Landlord shall (i) permit its risers, conduits and feeders to the extent available, suitable and safely capable, to be used for the purpose of enabling Tenant to purchase and obtain electric current directly from such company, (ii) without cost or charge to Tenant, make

such alterations and additions to the electrical equipment and/or appliances in the Building as such company shall specify for the purpose of enabling Tenant to purchase and obtain electric current directly from such company, and (iii) at Landlord's expense, furnish and install in or near the Premises any necessary metering equipment used in connection with measuring Tenant's consumption of electric current and Tenant, at Tenant's expense, shall maintain and keep in repair such metering equipment.

(d) If Tenant shall require electric current for use in the Premises in excess of the amount Landlord is required to deliver to the Premises and shown on Exhibit 10-2 and if (i) in Landlord's reasonable judgment, Landlord's facilities are inadequate for such excess requirements or (ii) such excess use shall result in an additional burden on the Building air conditioning system and additional cost to Landlord on account thereof, then, as the case may be, (x) Landlord, upon written request and at the sole cost and expense of Tenant, will furnish and install such additional wire, conduits, feeders, switchboards and appurtenances as reasonably may be required to supply such additional requirements of Tenant if current therefor be available to Landlord, provided that the same shall be permitted by applicable laws and insurance regulations and shall not cause damage to the Building or the Premises or cause or create a dangerous or hazardous condition or entail excessive or unreasonable alterations or repairs or unreasonably interfere with or disturb other tenants or occupants of the Building or (y) Tenant shall reimburse Landlord for such additional cost, as aforesaid. Tenant acknowledges that it has been provided with an opportunity to confirm that the electric current serving the Premises will be adequate to supply its proposed permitted uses of the Premises.

(e) Landlord, at Tenant's expense and upon Tenant's written request, shall install all replacement lamps of types generally commercially available (including, but not limited to, incandescent and fluorescent, but excluding specialty lamps and fixtures) used in the ancillary/accessory office portion(s) of the Premises (excluding laboratory portions thereof). Landlord shall have the right to elect, upon reasonable written notice, to cease the installation of lamps hereunder.

(f) To the maximum extent this agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186, §15), but subject to Tenant's insurance requirements hereunder and Section 15 and Article 19, Landlord shall not in any way be liable or responsible to Tenant for any loss, damage or expense which Tenant may sustain or incur if the quantity, character, or supply of electrical energy is changed or is no longer available or suitable for Tenant's requirements, subject to Section 8.8 below.

(g) Tenant agrees that it will not make any material alteration or material addition to the electrical equipment and/or appliances in the Premises without the prior written consent of Landlord in each instance first obtained, which consent will not be unreasonably withheld, conditioned, or delayed, and using contractor(s) reasonably approved by Landlord, which approval will not be unreasonably withheld, conditioned, or delayed, and will promptly advise Landlord of any other alteration or addition to such electrical equipment and/or appliances.

8.2 Water. Landlord shall furnish hot and cold water for ordinary use for cleaning, toilet, lavatory and drinking purposes for restrooms and facilities in the Common Areas. In addition, Landlord will stub an additional cold water line to the Premises (as part of the Base Building Shell Work) for Tenant's distribution and use within the Premises for ordinary use for cleaning, toilet, lavatory and drinking purposes for restrooms and facilities therein (which distribution, heating, treatment, etc. shall be included in the scope (and cost) of Tenant Improvement Work as and to the extent set forth in the Plans). If Tenant requires. uses or consumes water for any purpose other than for the aforementioned purposes in the Premises, Landlord shall install a water meter and thereby measure Tenant's water consumption for all purposes. Tenant shall pay the cost of the meter and the cost of installation thereof and shall keep said meter and installation equipment in good working order and repair. Tenant agrees to pay for water consumed, as shown on said meter, together with the sewer charge based on said meter charges, as and when bills are rendered, and on default in making such payment Landlord may pay such charges and collect the same from Tenant. All piping and other equipment and facilities for use of water outside the building core will be installed as part of the Tenant Improvement Work and maintained by Landlord at Tenant's sole cost and expense; provided, however, that such piping and other equipment and facilities are used solely for Tenant's water usage (otherwise, such maintenance shall be considered Operating Costs). Notwithstanding anything in this Lease to the contrary, if a water meter is installed as contemplated in this Section 8.2, then there shall be an equitable reduction to the water service charges included within Operating Costs.

8.3 Elevators, Heat and Cleaning. Landlord shall: (a) provide necessary elevator facilities (as provided in the Plans) substantially equivalent to those being furnished in comparable first-class research and development buildings located in the Seaport District of the City of Boston, Massachusetts (which shall be automatically operated) on Mondays through Fridays, excepting Federal, Massachusetts and City of Boston legal holidays, from 7:00 a.m. to 7:00 p.m. and on Saturdays, excepting Federal, Massachusetts and City of Boston legal holidays, from 8:00 a.m. to 3:00 p.m. (called "business days") and have one (1) elevator in operation available for Tenant's use, non-exclusively, together with others having business in the Building, at all other times throughout the Term; (b) furnish heat, air conditioning and ventilation (substantially equivalent to that being furnished in comparable research and development buildings located in the Seaport District of the City of Boston, Massachusetts) to the interior Common Areas of the Building during the foregoing times on business days; and (c) cause the interior Common Areas of the Building to be cleaned on Monday through Friday (excepting Federal, Massachusetts or City of Boston legal holidays) in a manner consistent with cleaning standards generally prevailing in comparable research and development buildings located in the Seaport District of the City of Boston, Massachusetts. All costs and expenses incurred by Landlord in connection with foregoing services shall be included as part of the Operating Costs (as defined below). Tenant shall be responsible, at its sole cost and expense, for providing cleaning and janitorial services to the Premises in a neat and first-class manner consistent with the cleaning standards generally prevailing in comparable first-class life science buildings in the Seaport District of Boston, Massachusetts or as otherwise reasonably established by Landlord in writing from time to time using an insured contractor or contractors selected by Tenant and reasonably approved in writing by Landlord and such provider shall not interfere with the use and operation of the Building or Land by Landlord or any other tenant or occupant thereof. Tenant shall also cause all extermination of vermin in the Premises to be performed by companies reasonably approved by Landlord in writing and shall contract and utilize pest extermination services for the Premises as reasonably necessary or as reasonably requested by Landlord in writing.

8.4 Air Conditioning. Landlord shall provide Make Up Air capacity capable of 2.0 CFM/sf of once thru air for the laboratory portion of the Premises and of approximately .5 CFM/sf for the office and non-laboratory portions thereof. The ancillary office portion of the Premises shall be served by heat pumps with code required make up air stubbed to the Premises in a location shown on the Base Building Plans as part of the Base Building Shell Work (with the heat pumps, connections, and distribution within the Premises as part of the Tenant Improvement Work). The laboratory/office split of the Premises is anticipated to be 60% laboratory/40% ancillary office. Landlord shall provide a condenser water system for laboratory process cooling and office air conditioning. Condenser water loop connections sized for 40 tons/floor of cooling and the hot water loop connections sized for reheat and/or radiation based upon make up air as outlined above. Condenser water and hot water loop to be stubbed to the Premises in a location shown on the Plans as part of the Base Building Shell Work. Tenant agrees to lower and close the blinds or drapes when necessary because of the sun's position, whenever the air conditioning system is in operation, by using good faith efforts to cause its employees and invitees to comply with such requirements and to cooperate fully with Landlord with regard to, and to abide by all the reasonable regulations and requirements which Landlord may prescribe for the proper functioning and protection of the air conditioning system. Landlord shall provide such heat and air conditioning services to the laboratory portion of the Premises twenty-four (24) hours a day, seven (7) days a week during the Term, and to the office and non-laboratory portions of the Premises during business hours.

8.5 Additional Heat and Air Conditioning Services. Upon reasonable advance written notice from Tenant (meaning at least twenty-four (24) hours' prior notice) of its requirements in that regard, Landlord shall furnish additional heat or air conditioning services to the office and non-laboratory portions of the Premises on days and at times other than as above provided. Tenant will pay to Landlord a reasonable charge for any such additional heat or air conditioning service required by Tenant.

8.6 Additional Air Conditioning Equipment. In the event Tenant requires additional air conditioning for equipment, machines, meeting or equipment rooms not installed as part of Landlord's Work or other purposes or uses, or because of specific climate control needs, occupancy or excess electrical loads, any additional air conditioning units, chillers, condensers, compressors, ducts, piping and other equipment, such additional air conditioning equipment will be installed, but only if, in Landlord's reasonable judgment, the same will not cause damage or injury to the Building or create a dangerous or hazardous condition or unreasonably interfere with or disturb other tenants. At Landlord's sole election, such equipment will either be installed:

(a) by Landlord at Tenant's expense and Tenant shall reimburse Landlord in such an amount as will compensate it for the actual and reasonable out-of-pocket cost incurred by it in operating, maintaining, repairing and replacing, if necessary, such additional air conditioning equipment. At Landlord's election, such equipment shall (i) be maintained, repaired and replaced by Tenant at Tenant's sole cost and expense, and (ii) throughout the Term of this Lease, Tenant shall, at Tenant's sole cost and expense, purchase and maintain a service contract for such equipment from a service provider approved by Landlord. Tenant shall obtain Landlord's prior written approval of both the form of service contract and of the service provider; or

(b) by Tenant, subject to Landlord's prior approval of Tenant's plans and specifications for such work (subject to the approval standard for Alterations set forth in Article 12). In such event: (i) such equipment shall be maintained, repaired and replaced by Tenant at Tenant's sole cost and expense, and (ii) throughout the Term of this Lease, Tenant shall, at Tenant's sole cost and expense, purchase and maintain a service contract for such equipment from a service provider approved by Landlord. Tenant shall obtain Landlord's prior written approval of both the form of service contract and of the service provider.

8.7 Landlord Repairs. Except as otherwise provided in Articles 18 and 20, and subject to Tenant's obligations in Article 14, Landlord shall keep and maintain in good condition and repair the structural elements of the Building (including, without limitation, the Roof, exterior walls, structural floor slabs, columns, elevators and elevator shafts, public stairways and corridors, footings, foundations, structural portions of load-bearing walls, structural floors and subfloors, and structural columns and beams), Common Areas, including the Amenity Center, (which shall be kept clean and free of rubbish and debris), exterior windows, public lavatories, Common Laboratory Facilities, and all other common facilities, and the mechanical systems (including, without limitation, elevators, sanitary, plumbing, electrical, heating, ventilation, air conditioning, generators, fire and life safety, and other systems) (collectively, the "Building Systems") serving both the Building and the Common Areas, and the Building's emergency generator(s). Landlord shall keep the paved portions of the Common Areas reasonably free of ice and snow. Landlord shall perform any of its obligations under this Section 8.7 in a timely manner consistent with comparable first-class life science buildings in the Seaport District of Boston, Massachusetts. Notwithstanding any other provision of this Lease, Landlord, for itself and its employees, agents and contractors, reserves the right to refuse to perform any repairs or services in any laboratory portion of the Premises or any other portion which, pursuant to Tenant's safety guidelines, practices or custom or prudent industry practices, require any form of clothing or equipment other than safety glasses. In any such case, Tenant shall contract with parties who are acceptable to Landlord, in Landlord's reasonable discretion, for all such repairs and services, which shall be paid for by Landlord and chargeable as Operating Costs.

8.8 Interruption or Curtailment of Services. When necessary by reason of accident or emergency, or for repairs, alterations, replacements or improvements which in the reasonable judgment of Landlord are necessary to be made, or by reason of event(s) of Force Majeure, Landlord reserves the right to temporarily interrupt, curtail, stop or suspend (a) the furnishing of heating, elevator, air conditioning, and cleaning services and (b) the operation of the plumbing and electric systems. Landlord shall exercise commercially reasonable and diligent efforts to promptly eliminate the cause of any such interruption, curtailment, stoppage or suspension, but there shall be no diminution or abatement of rent or other compensation due from Landlord to Tenant hereunder, nor shall this Lease be affected or any of the Tenant's obligations hereunder reduced, and the Landlord shall have no responsibility or liability for any such interruption, curtailment, stoppage, or suspension of services or systems. Notwithstanding the foregoing, Tenant shall be entitled to a proportionate abatement of Yearly Rent in the event of a Landlord Service Interruption (as defined below). For the purposes hereof, a "Landlord Service Interruption" shall occur in the event (i) the Premises shall lack any service which Landlord is

required to provide or furnish hereunder (including but not limited to emergency generator service (per Section 2.2 above)) thereby rendering the Premises or any material portion of the Premises untenable for the entirety of the Landlord Service Interruption Cure Period (as defined below), (ii) such lack of service was not caused by Tenant, its employees, contractors, invitees or agents or by a casualty (in which event Section 18 shall control); (iii) Tenant in fact ceases to use the entire Premises or any material portion of the Premises for the entirety of the Landlord Service Interruption Cure Period (provided, however, that Tenant shall not be required to cease its use of the laboratory portion of the Premises if such cessation is impractical due to the nature of its business operations); and (iv) such interruption of service was the result of causes, events or circumstances within the Landlord's reasonable control and the cure of such interruption is within Landlord's reasonable control. For the purposes hereof, the "Landlord Service Interruption Cure Period" shall be defined as five (5) consecutive calendar days after Landlord's receipt of written notice from Tenant of the Landlord Service Interruption. Additionally, and notwithstanding anything contained herein to the contrary, in the event that a Landlord Service Interruption lasts for one hundred twenty (120) consecutive days and Tenant has vacated 50% of the Rentable Area of the laboratory portion of the Premises or 50% of the Rentable Area of the office portion of the Premises, then Tenant, upon not less than thirty (30) days prior written notice to Landlord, shall have the right to terminate this Lease effective as of the date of the Landlord Service Interruption and Landlord shall immediately refund to Tenant any Yearly Rent and other payments paid by Tenant to Landlord prior to such termination; provided, however, if the Landlord Service Interruption giving rise to Tenant's termination hereunder is cured within such thirty (30) day period Tenant's termination right hereunder shall be void and of no further force or effect.

8.9 Energy Conservation. Notwithstanding anything to the contrary in this Article 8 or in this Lease contained, Landlord may institute, and Tenant shall comply (and cause its employees, invitees, agents and contractors to comply) with, such policies, programs and measures as may be necessary, required, or expedient for the conservation and/or preservation of energy or energy services, or as may be necessary or required to comply with applicable codes, rules regulations or standards including but not limited to applying and reporting for the Building or any part thereto to seek or maintain certification under the U.S. EPA's Energy Star® rating system, the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system or a similar system or standard. Landlord will use best efforts to obtain and shall diligently seek to achieve LEED Silver Certification using and meeting ASHRAE 90.1-2007. If the Building is LEED certified, Landlord will provide Tenant with the Building's LEED scorecard and such other information as will establish the Building as having received LEED certification or as seeking the same. Upon reasonable request, Tenant shall provide Landlord with the necessary information or, at Tenant's option, grant Landlord access to Tenant's account with any utility company or provider paid directly by Tenant for utility services, so that Landlord can review the utility bills relating to the Premises in connection with any required energy reporting requirements to the City of Boston or other governmental agency or in connection with any third party energy certification program (e.g., LEED certification). Regardless if Landlord obtains LEED certification for the Building, Tenant shall comply with LEED policies outlined, from time to time, for Green Cleaning and Integrated Pest Management provided such policies are uniformly applied to all similarly situated tenants in the Building. In the event Tenant shall pursue certification for the Premises in connection with any Tenant work or Alterations under the LEED certification process for Commercial Interiors (CI), Landlord will assist Tenant's efforts by providing documentation supporting points and prerequisite requirements related to the Building and the Building Systems; provided any costs and expenses relating thereto, including construction materials or construction or building processes, products, procedures and protocols in connection with obtaining or maintaining such certification, or the applying and reporting therefor, shall be allocated to the costs and expenses for the Tenant Improvement Work or to Tenant and not included in the cost of the Base Building Shell Work or Operating Costs.

8.10 Access. Subject to terms and conditions of this Lease, Landlord's Rules and Regulations and reasonable security requirements as the same may be amended from time to time and of which Tenant has received prior written notice, Tenant shall have access to the Premises and all Common Areas and the Parking Facilities twenty-four (24) hours a day, seven (7) days a week. Subject to the terms and conditions of this Lease including but not limited to Section 12, Tenant shall have the right to install a card key or similar security access system to the Premises

8.11 **Amentity Center.** Landlord shall open, operate, and make available to Tenant, from time to time, the Amenity Center in the Building unless and until same is otherwise provided elsewhere in the Complex; provided, however, that if all or any portion of the Amenity Center facilities are located in the Complex, rather than the Building, or if all or any portion of the Amenity Center facilities are offered to tenants of the Complex, rather than just tenants of the Building, such Amenity Center facilities shall be opened, operated and scaled in such a way as to offer reasonably comparable Amenity Center services (and access thereto) as offered prior to such change. With respect to the fitness center within the Amenity Center, it is understood and agreed that to the maximum extent the following agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186, §15), but subject to Tenant's insurance requirements hereunder and Article 15 and Article 19, the use of the fitness center and its facilities shall be at the sole risk of Tenant and the employees using same.

9. TAXES AND OPERATING COSTS

9.1 **Definitions.** As used in this Article 9, the words and terms which follow mean and include the following:

(a) "Operating Year" shall mean a calendar year in which occurs any part of the Term of this Lease.

(b) "Tenant's Proportionate Share" shall be the figure as stated in Exhibit 1. Tenant's Proportionate Share is the ratio of the Total Rentable Area of the Premises to the aggregate Total Rentable Area of the Building, as adjusted by Landlord from time to time in accordance with this Lease. Notwithstanding the foregoing, Landlord may equitably adjust Tenant's Proportionate Share for all or part of any item of expense or cost reimbursable by Tenant that relates to a repair, replacement, or service that benefits only the Premises (or only a portion of the Building, in which case such adjustment shall be made equitably between only those tenants occupying such portion of the Building). Further, Landlord may allocate the costs and expenses to maintain and repair the Common Laboratory Facilities based on the Total Rentable Area of the laboratory portion of each tenant's premises to the Total Rentable Area of the portion of the Building dedicated to laboratory use.

(c) "Taxes" shall mean the real estate taxes and other taxes, levies and assessments imposed upon the Building, the Land and the Common Areas upon any personal property of Landlord used in the operation thereof, or Landlord's interest in the Building, the Common Areas, or such personal property; charges, fees and assessments for transit, housing, police, fire or other governmental services or purported benefits to the Building and/or the Common Areas; service or user payments in lieu of taxes; and any and all other taxes, levies, betterments, assessments and charges arising from the ownership, leasing, operating, use or occupancy of the Building, the Common Areas or based upon rentals derived therefrom, which are or shall be imposed by Federal, State, Municipal or other authorities. For the purposes of this Lease, "Taxes" shall include any payment in lieu of taxes or any payments made under Chapter 121A of the Massachusetts General Laws or any similar law and any payments to, for or relating in whole or in part to any business improvement district in which the Complex may be located. As of the Execution Date, "Taxes" shall not include any franchise, rental, income or profit tax, capital levy or excise, provided, however, that any of the same and any other tax, excise, fee, levy, charge or assessment, however described, that may in the future be levied or assessed as a substitute for or an addition to, in whole or in part, any tax, levy or assessment which would otherwise constitute "Taxes," whether or not now customary or in the contemplation of the parties on the Execution Date of this Lease, shall constitute "Taxes," but only to the extent calculated as if the Land is the only real estate owned or leased by Landlord. "Taxes" shall also include expenses of tax abatement or other proceedings contesting assessments or levies. Notwithstanding the foregoing, Landlord shall have the right to exclude from "Taxes", from time to time, any portions of the Building, Land, Complex or Common Areas that are taxed or billed by the City of Boston or other applicable taxing authority as a separate tax parcel (e.g., sub-parcel or associate parcel) and to reincorporate such separate tax parcel in the event such separate tax treatment terminates and, in such event, equitably increase or decrease, as the case may be, Tenant's Proportionate Share for purposes of invoicing Tenant for its Tax Share (as defined below). In addition, if applicable, Taxes shall be equitably allocated by Landlord, in Landlord's reasonable judgment, among the Building and any other building(s) and improvements in the Complex. The parties acknowledge that, from time to time, Taxes may be based upon several separate tax bills affecting the Land and/or the Complex.

(d) "Tax Period" shall be any fiscal/tax period in respect of which Taxes are due and payable to the appropriate governmental taxing authority, any portion of which period occurs during the Term of this Lease, the first such Period being the one in which the Term Commencement Date occurs.

(e) "Operating Costs":

(1) Definition of Operating Costs. "Operating Costs" shall mean all costs incurred and expenditures of whatever nature made by Landlord in the operation and management, for repair and replacements, cleaning and maintenance of the Land, Building, Complex and the Common Areas (including but not limited to the Parking Facilities serving same from time to time), related equipment, facilities and appurtenances, elevators, cooling and heating equipment and the Common Laboratory Facilities (and services relating thereto). In the event that Landlord or Landlord's managers or agents perform services for the benefit of the Building or Land off-site which would otherwise be performed on-site (e.g., accounting), the cost of such services shall be reasonably allocated among the properties benefiting from such service and shall be included in Operating Costs. Landlord shall have the right but not the obligation, from time to time, to equitably allocate some or all of the Operating Costs among different tenants of the Building or Complex (the "Cost Pools"). Such Cost Pools may include, but shall not be limited to, tenants that share particular systems or equipment, including Common Laboratory Facilities, or tenants that are similar users of particular systems or equipment such as by way of example but not limitation office space tenants of the Building or Complex, laboratory tenants of the Building or Complex and retail space tenants of the Building or Complex. Operating Costs shall include, without limitation, those categories of "Specifically Included Operating Costs," as set forth below, but in no event shall Operating Costs include "Excluded Costs," as hereinafter defined.

(2) Definition of Excluded Costs. "Excluded Costs" shall be defined as mortgage charges; brokerage commissions; salaries of executives and owners not directly employed in the management/operation of the Building, Complex and Land; the cost of work done by Landlord for a particular tenant for which Landlord has the right to be reimbursed by such tenant; subject to Subparagraph (3) below, such portion of expenditures as are not properly chargeable against income; expenses incurred by Landlord to lease space to new tenants or to retain existing tenants including tenant improvement allowances, construction costs, marketing costs, brokerage commissions and concessions and leasehold improvement costs, finders' fees, attorneys' fees and expenses; entertainment costs and travel expenses; attorneys' fees incurred for services that do not generally benefit the tenants of the Building or Complex, or incurred in connection with matters relating to the formation of Landlord as an entity and maintaining its continued existence as an entity, or incurred in connection with lease negotiations or disputes with individual tenants, and other expenses and attorneys' fees to resolve disputes, enforce or negotiate lease terms with prospective or existing tenants or in connection with any financing, sale or syndication of the Building or Complex; accountants' fees incurred in connection with disputes with individual tenants and/or the existence, maintenance or non-Building related operations of the legal entity or entities of which Landlord is comprised (without limitation, the foregoing shall not exclude the reasonable costs of preparing financial statements for Operating Costs); the cost of any special work or service performed for any tenant (including Tenant) or licensee, such as after-hours HVAC service, which is billable to such tenant or licensee; the cost of any items for which Landlord is reimbursed by insurance, condemnation, licensees, tenants (other than through general operating expense provisions) or otherwise; the cost of any additions, improvements, changes, replacements, painting, decorating, renovations and other items that are made to and solely benefitting areas of the Building or Complex that do not include Common Areas (or common facilities), or that are made in order to prepare tenant space for a new tenant's occupancy, or the cost of any other work in any space leased to an existing or prospective tenant or other occupant of the Building or the Complex; interest, principal, points and fees, amortization or other costs and expenses associated with any debt or amortization payments on any mortgage or deed to secure debt; any expenses for repairs, maintenance and replacements to the extent reimbursed due to warranties and service contracts, any cost that Tenant or any other tenant at the Building or Complex pays for directly (either to Landlord or a third party); any cost that are reimbursed by a warranty that Landlord is required to obtain in

connection with the Building or Complex pursuant to this Lease or that Landlord otherwise obtains in connection with the Building or Complex; salaries, bonuses, benefits, and employment taxes of officers, executives of Landlord and administrative employees above the grade of property manager or building supervisor (and if a property manager or building supervisor or any personnel below such grades are shared with other buildings or has other duties not related to the building containing the Premises, only the allocable portion of such person's or persons' salary, bonuses and benefits shall be included in Operating Costs); Landlord's general overhead and administrative expenses; any capital expenditures (except as otherwise provided in Subparagraph (3) below; any costs or expenses incurred in connection with services or other benefits (A) of a type not provided to Tenant (or provided to Tenant at separate or additional charge) but that are provided to another tenant or occupant of the Building, or (B) that are available to all tenants of the Building, including Tenant, but are provided to other tenants or occupants of the Building at a level substantially greater than that provided to Tenant (excluding those services or other benefits that Landlord makes available to all tenants at the same level, but with respect to which Tenant elects in its sole discretion to receive at a lower level) without separate or additional charge, in which case such expenses shall be excluded from Operating Costs to the extent such expenses exceed the amount that would have been incurred to provide such services or other benefits to such other tenant or occupant at the same level as such services or other benefits are provided to Tenant; expenses incurred by Landlord to the extent the same are chargeable and collected from any other tenant or occupant of the Property, or to any third party; any fee or expenditure that is paid or payable to any affiliate of Landlord to the extent that such fee or expenditure is unreasonably inconsistent with fees charged by third-party property managers providing reasonably comparable services in the Boston market; penalties, fines and other costs incurred due to violation by Landlord of any lease or any legal requirements applicable to the Building or Complex; provided the foregoing shall not include compliance costs with respect to such legal requirements coming into force or effect from and after the Term Commencement Date, and any interest or penalties due for late payment by Landlord of any of the Operating Costs; costs and expenses incurred by Landlord in connection with the repair of damage to the Building or Complex caused by fire or other casualty, insured or required to be insured against hereunder, other than the deductible amount under such insurance policies, or otherwise recovered under its insurance policies; the cost of any item for which Landlord is reimbursed through condemnation awards; insurance premiums to the extent any unusual tenant activity causes Landlord's existing insurance premiums to increase or requires Landlord to purchase additional insurance, but only to the extent such additional cost can be identified by the insurer and are not passed through by Landlord to a specific tenant; costs and expenses of investigating, monitoring and remediating hazardous materials which were present on or beneath the surface of the Property and in violation of applicable Legal Requirements as of the Term Commencement Date or which were caused by Landlord, its agents, contractors, employees or representatives; political contributions; and the costs of obtaining artwork.

(3) Capital Expenditures.

(i) Replacements. If, during the Term of this Lease, Landlord shall replace any capital items or make any capital expenditures (collectively called "capital expenditures") the total amount of which is not properly includible in Operating Costs for the Operating Year in which they were made, there shall nevertheless be included in such Operating Costs and in Operating Costs for each succeeding Operating Year the amount, if any, by which the Annual Charge-Off (determined as hereinafter provided) of such capital expenditure (less insurance proceeds, if any, collected by Landlord by reason of damage to, or destruction of the capital item being replaced) exceeds the Annual Charge-Off of the capital expenditure for the item being replaced. Notwithstanding anything in this Lease to the contrary, and excluding only capital expenditures on account of a casualty or changes in legal requirements (from and after the Term Commencement Date), Landlord shall not include any capital expenditures in Operating Costs for the first five (5) Lease Years.

(ii) New Capital Items. If a new capital item is acquired which does not replace another capital item which was worn out, has become obsolete, etc., then there shall be included in Operating Costs for each Operating Year in which and after such capital expenditure is made the Annual Charge-Off of such capital expenditure. Notwithstanding anything in this Lease to the contrary, and excluding only capital expenditures on account of a casualty or changes in legal requirements (from and after the Term Commencement Date), Landlord shall not include any capital expenditures in Operating Costs for the first five (5) Lease Years.

(iii) Annual Charge-Off. "Annual Charge-Off" shall be defined as the annual amount of principal and interest payments which would be required to repay a loan ("Capital Loan") in equal monthly installments over the Useful Life, as hereinafter defined, of the capital item in question on a direct reduction basis at an annual interest rate equal to the Capital Interest Rate, as hereinafter defined, where the initial principal balance is the cost of the capital item in question. Notwithstanding the foregoing, if Landlord reasonably concludes on the basis of engineering estimates that a particular capital expenditure will effect savings in Building operating expenses including, without limitation, energy-related costs, and that such projected savings will, on an annual basis ("Projected Annual Savings"), exceed the Annual Charge-Off of such capital expenditure computed as aforesaid, then and in such events, the Annual Charge-Off shall be increased to an amount equal to the Projected Annual Savings; and in such circumstances, the increased Annual Charge-Off (in the amount of the Projected Annual Savings) shall be made for such period of time as it would take to fully amortize the cost of the capital item in question, together with interest thereon at the Capital Interest Rate as aforesaid, in equal monthly payments, each in the amount of one-twelfth (1/12th) of the Projected Annual Savings, with such payments being applied first to interest and the balance to principal.

(iv) Useful Life. "Useful Life" shall be reasonably determined by Landlord in accordance with generally accepted accounting principles and practices in effect at the time of acquisition of the capital item.

(v) Capital Interest Rate. "Capital Interest Rate" shall be defined as an annual rate of either one percentage point over the AA Bond rate (Standard & Poor's corporate composite or, if unavailable, its equivalent) as reported in the financial press at the time the capital expenditure is made or, if the capital item is acquired through third-party financing, then the actual (including fluctuating) rate paid by Landlord in financing the acquisition of such capital item.

(vi) Applicable Capital Expenditures. The Annual Charge-off of Capital Expenditures set forth in subsections (i) and (ii) above shall only be included as Operating Costs if said Capital Expenditures are, in Landlord's good faith belief, (a) reasonably anticipated to result in a reduction in (or minimize increases in) Operating Costs, (b) required to comply with present or reasonably anticipated energy or similar conservation programs, (c) required under any governmental law or regulation enacted after or coming into applicability after the date of this Lease, or (d) necessary to replace or maintain Building systems, life safety or improve security measures at the Property in a manner consistent with other comparable first-class life science buildings in the Seaport District of Boston, Massachusetts.

(4) Specifically Included Categories of Operating Costs. Unless expressly and specifically excluded from Operating Costs under Subsection (2) above, Operating Costs shall include, but not be limited to, the following:

Taxes (other than real estate taxes): Sales, Federal Social Security, Unemployment and Old Age Taxes and contributions and State Unemployment taxes and contributions accruing to and paid by the Landlord on account of all employees of Landlord and/or Landlord's managing agent, who are employed in, about or on account of the Building, Complex and Land, except that taxes levied upon the net income of the Landlord and taxes withheld from employees, and "Taxes" as defined in Article 9.1(c) shall not be included herein.

Water: All charges and rates connected with water supplied to the Building and related sewer use charges.

Heat and Air Conditioning: All charges connected with heat and air conditioning supplied to the Building.

Wages: Wages and cost of all employee benefits of all employees of the Landlord and/or Landlord's managing agent who are employed in, about or on account of the Building, Land and Complex.

Cleaning: The cost of labor (including third party janitorial contracts), supplies, tools and material for cleaning the Building, Land and Complex.

Elevator Maintenance: All expenses for or on account of the upkeep and maintenance of all elevators in the Building.

Management Fee: The cost of professional management of the Building, Land and Complex, not to exceed three percent (3%) of the then current Yearly Rent.

Administrative Costs: The cost of office expense for the management of the Building, Land and Complex, including, without limitation, rent, business supplies and equipment and commercially reasonable costs associated with the Building's management office (either as rent or in the calculation of Total Rentable Area of the Building).

Electricity: The cost of all electric current for the operation of any machine, appliance or device used for the operation of the Building, including the cost of electric current for the elevators, lights, air conditioning and heating, Common Laboratory Services, but not including electric current which is paid for directly to the utility by the user/tenant in the Building or for which the user/tenant pays directly or reimburses Landlord. (If and so long as Tenant is billed directly by the electric utility for its own consumption as determined by its separate meter, or billed directly by Landlord as determined by a check meter, then Operating Costs shall include only Building and public area electric current consumption and not any demised Premises electric current consumption.) Wherever separate metering is unlawful, prohibited by utility company regulation or tariff or is otherwise impracticable, relevant consumption figures for the purposes of this Article 9 shall be determined by fair and reasonable allocations and engineering estimates made by Landlord.

Ground Rent: The ground rent payments and other charges, if any, due pursuant to the EDIC Lease (as defined below).

Shared or Easement Costs: The Building's share (as reasonably determined and allocated by the applicable agreement or Landlord) of: (i) the costs incurred by Landlord in operating, maintaining, repairing, insuring and paying real estate taxes upon any shared facilities (including, without limitation, the common facilities from time to time serving the Building, Land and Complex in common with other buildings or parcels of land), such as any accessways, sewer and other utility lines, amenities and the like; (ii) shuttle bus service (if and so long as Landlord provides for same); (iii) the actual or imputed cost of the space occupied by on-the-grounds building attendant(s) and related personnel and the cost of administrative and or service personnel whose duties are not limited solely to the Building, Land and Complex, as reasonably determined and allocated to the Building, Land and Complex by Landlord; and (iv) payments made by Landlord under any easement, license, operating agreement, declaration, restrictive covenant, or instrument pertaining to the payment or sharing of costs among property owners, including but not limited to Boston Marine Industrial Park ("BMIP") operating expenses, fees and charges for BMIP park-wide snow removal, security, street lighting, landscaping and other services provided to tenants of the BMIP.

Insurance, etc.: Fire, casualty, liability, rent loss and such other insurance as may from time to time be required by lending institutions on comparable first-class life science buildings in the Seaport District of Boston, Massachusetts and all other expenses customarily incurred in connection with the operation and maintenance of comparable first-class life science buildings in the Seaport District of Boston, Massachusetts including, without limitation, commercially reasonable insurance deductible amounts.

(5) Gross-Up Provision. Notwithstanding the foregoing, in determining the amount of Operating Costs for any calendar year or any portion thereof falling within the Term, if less than ninety-five percent (95%) of the Rentable Area of the Building shall have been occupied by tenants at any time during the period in question, then, at Landlord's election, Operating Costs for such period shall be adjusted to equal the amount Operating Costs would have been for such period had occupancy been ninety-five percent (95%) throughout such period. The extrapolation of Operating Costs under this paragraph shall be performed by appropriately adjusting the cost of those components of Operating Costs that are impacted by changes in the occupancy of the Building.

9.2 Tax Share. Commencing as of the Term Commencement Date and continuing thereafter with respect to each Tax Period occurring during the Term of the Lease, Tenant shall pay to Landlord, with respect to any Tax Period Tenant's Proportionate Share of Taxes for such Tax Period, such amount being hereinafter referred to as "Tax Share". Tax Share shall be due when billed by Landlord, but not earlier than sixty (60) days prior to the due date of any tax payment required by the taxing authority except as otherwise provided in the immediately following sentence. In implementation and not in limitation of the foregoing, Tenant shall remit to Landlord pro rata monthly installments on account of projected Tax Share, calculated by Landlord on the basis of the most recent Tax data or budget available. If the total of such monthly remittances on account of any Tax Period is greater than the actual Tax Share for such Tax Period, Landlord shall credit the difference against the next installment of rental or other charges due to Landlord hereunder, or if the Lease Term has expired or the Lease has been terminated earlier, pay such amount to Tenant within thirty (30) days after the expiration or earlier termination of the Lease. If the total of such remittances is less than the actual Tax Share for such Tax Period, Tenant shall pay the difference to Landlord within thirty (30) days of when billed therefor. Landlord shall endeavor to provide to Tenant not later than one hundred twenty (120) days after the end of each Tax Period a statement of the actual Taxes paid by Landlord during that Tax Period and the amount, if any, of any amounts to be credited to Tenant or are required to be paid by Tenant, as provided in this paragraph.

Appropriate credit against Tax Share shall be given for any refund obtained by reason of a reduction in any Taxes by the Assessors or the administrative, judicial or other governmental agency responsible therefor. The original computations, as well as reimbursement or payments of additional charges, if any, or allowances, if any, under the provisions of this Article 9.2 shall be based on the original assessed valuations with adjustments to be made at a later date when the tax refund, if any, shall be paid to Landlord by the taxing authorities. Expenditures for legal fees and for other similar or dissimilar expenses incurred in obtaining the tax refund may be charged against the tax refund before the adjustments are made for the Tax Period.

Landlord has obtained from the City of Boston the benefit of a seven (7) year Payment in Lieu of Taxes (PILOT) program that commenced as of Tax fiscal year 2017, and the payments thereunder shall be included in Taxes.

9.3 Operating Expense Share. Commencing as of the Term Commencement Date and continuing thereafter with respect to each Operating Year occurring during the Term of the Lease, Tenant shall pay to Landlord, with respect to any Operating Year, Tenant's Proportionate Share of Operating Costs for such Operating Year, such sum being hereinafter referred to as "Operating Expense Share". In implementation and not in limitation of the foregoing, Tenant shall remit to Landlord pro rata monthly installments on account of projected Operating Expense Share, calculated by Landlord on the basis of the most recent Operating Costs data or budget available. If the total of such monthly remittances on

account of any Operating Year is greater than the actual Operating Expense Share for such Operating Year, Landlord shall credit the difference against the next installment of rent or other charges due to Landlord hereunder, or if the Lease Term has expired or the Lease has been terminated earlier, pay such amount to Tenant within thirty (30) days after the expiration or earlier termination of the Lease. If the total of such remittances is less than actual Operating Expense Share for such Operating Year, Tenant shall pay the difference to Landlord when billed therefor. Landlord shall endeavor to provide to Tenant not later than one hundred twenty (120) days after the end of each Operating Year a statement of the actual Operating Costs paid by Landlord during that Operating Year and the amount, if any, of any amounts to be credited to Tenant or are required to be paid by Tenant, as provided in this paragraph.

9.4 Part Years. If the Term Commencement Date or the Termination Date occurs in the middle of an Operating Year or Tax Period, Tenant shall be liable for only that portion of the Operating Expense or Tax Share, as the case may be, in respect of such Operating Year or Tax Period represented by a fraction, the numerator of which is the number of days of the herein Term which falls within the Operating Year or Tax Period and the denominator of which is three hundred sixty-five (365), or the number of days in said Tax Period, as the case may be.

9.5 Effect of Taking. In the event of any taking of the Building or the land upon which it stands under circumstances whereby this Lease shall not terminate under the provisions of Article 20 then, Tenant's Proportionate Building Share and Tenant's Proportionate Common Share shall be adjusted appropriately to reflect the proportion of the Premises and/or the Building remaining after such taking.

9.6 Tenant Audit Right. Landlord shall permit Tenant, at Tenant's expense and during normal business hours, but only one time with respect to any Operating Year, to review Landlord's invoices and statements relating to the Operating Costs for the applicable Operating Year for the purpose of verifying the Operating Costs and Tenant's share thereof; provided that notice of Tenant's desire to so review is given to Landlord not later than ninety (90) days after Tenant receives an annual statement from Landlord, and provided that such review is thereafter commenced and prosecuted by Tenant with due diligence. Any Operating Costs statement or accounting by Landlord shall be binding and conclusive upon Tenant unless (a) Tenant duly requests such review within such 90-day period, and (b) within three (3) months after Landlord's delivery to Tenant of copies of, or access to, all such invoices and statements for the purposes of conducting such review, Tenant shall notify Landlord in writing that Tenant disputes the correctness of such statement, specifying the particular respects in which the statement is claimed to be incorrect. Tenant shall have no right to conduct a review or to give Landlord notice that it desires to conduct a review at any time Tenant is in default under the Lease beyond any applicable notice and cure period. The accountant conducting the review shall (i) be a qualified lease auditor reasonably approved by Landlord (such approval not to be unreasonably withheld) having at least five (5) years applicable experience, and (ii) be compensated on an hourly basis and shall not be compensated based upon a percentage of overcharges it discovers. No subtenant shall have any right to conduct a review, and no assignee shall conduct a review for any period during which such assignee was not in possession of the Premises. If Tenant's review reveals that Tenant has overpaid Operating Costs by more than five percent (5%) of the actual Operating Costs, in the aggregate, that Landlord should have charged Tenant for the applicable Operating Year, then Landlord shall pay for the cost of Tenant's review. Tenant agrees that all information obtained from any such Operating Costs review, including without limitation, the results of any Operating Costs review shall be kept strictly confidential by Tenant and shall not be disclosed to any other person or entity other than its accountants, lenders, brokers and attorneys.

9.7 Survival. Any obligations under this Article 9 which shall not have been paid at the expiration or sooner termination of the Term of this Lease shall survive such expiration and shall be paid when and as the amount of same shall be determined to be due.

10. CHANGES OR ALTERATIONS BY LANDLORD

Landlord reserves the right, exercisable by itself or its nominee, but subject to the terms and provisions of this Lease, at any time and from time to time without the same constituting an actual or constructive eviction and without incurring any liability to Tenant therefor or otherwise affecting Tenant's obligations under this Lease, to make such changes, alterations, additions, improvements, repairs or replacements in or to: (a) the Building (including the Premises) and the fixtures and equipment thereof, (b) the street entrances, halls, passages, elevators, escalators, and stairways of the Building, and (c) the Common Areas, and facilities located therein, as Landlord may deem necessary or desirable, and to change the arrangement and/or location of entrances or passageways, doors and doorways, and corridors, elevators, stairs, toilets, or other public parts of the Building and/or the Common Areas, provided, however, that Landlord's access to the Premises shall be in accordance with Section 17.2 below. Further, Landlord shall provide Tenant with reasonable prior notice (which may be verbal to Landlord's employee contact within Tenant's premises) of any such work within the Premises, but not less than three (3) business days notice (for such work within the office portion thereof) and not less than five (5) business days notice (for work within the laboratory portion thereof), except in the event of an emergency. Nothing contained in this Article 10 shall be deemed to relieve Tenant of any duty, obligation or liability of Tenant with respect to making any repair, replacement or improvement or complying with any law, order or requirement of any governmental or other authority. Landlord reserves the right to adopt and at any time and from time to time upon reasonable prior written notice to change the name or address of the Building, in which case Landlord shall reimburse Tenant for the cost to change its stationary, up to a maximum amount of \$5,000 for each such change. Neither this Lease nor any use by Tenant shall give Tenant any right or easement for the use of any door, passage, concourse, walkway or parking area within the Building or in the Common Areas, and the use of such doors, passages, concourses, walkways, parking areas and such conveniences may be regulated or discontinued at any time and from time to time by Landlord upon reasonable prior written notice to Tenant, and without affecting the obligation of Tenant hereunder or incurring any liability to Tenant therefor, provided, however, that access to the Premises, and use of the Parking Facilities, is at all times available in a commercially reasonable manner.

If at any time any windows of the Premises are temporarily closed or darkened for any reason whatsoever including but not limited to, Landlord's own acts, Landlord shall not be liable for any damage Tenant may sustain thereby and Tenant shall not be entitled to any compensation therefor nor abatements of rent nor shall the same release Tenant from its obligations hereunder nor constitute an eviction.

11. FIXTURES, EQUIPMENT AND IMPROVEMENTS-REMOVAL BY TENANT

Excluding Landlord's Work, which is subject to Section 4.2(m) above, all fixtures, equipment, improvements and appurtenances attached to or built into the Premises prior to or during the term, whether by Landlord at its expense or at the expense of Tenant (either or both) or by Tenant shall be and remain part of the Premises and shall not be removed by Tenant during or at the end of the Term unless Landlord otherwise elects to require Tenant to remove such fixtures, equipment, improvements and appurtenances, in accordance with Articles 12 and/or 22 of the Lease. Excepting Tenant's Removable Property, all electric, plumbing, heating and sprinkling systems, fixtures and outlets, vaults, paneling, molding, built-in shelving, HVAC enclosures, cork, rubber, linoleum and composition floors, ventilating, silencing, air conditioning and cooling equipment, fume hoods which penetrate the roof or plenum area, built-in cold rooms, built-in warm rooms, walk-in cold rooms, walk-in warm rooms, chillers, built-in plumbing, electrical and mechanical equipment and systems, and any power generator and transfer switch shall be deemed to be included in such fixtures, equipment, improvements and appurtenances, whether or not attached to or built into the Premises, to the extent any of same were paid for by Landlord via the Improvement Allowance or the Supplemental Allowance. Where not built into the Premises, all removable electric fixtures, and all telephone, data and other communication cabling and equipment, carpets, drinking or tap water facilities, furniture, or trade fixtures or laboratory or business equipment or Tenant's inventory or stock in trade shall not be deemed to be included in such fixtures, equipment, improvements and appurtenances and may be, and upon the request of Landlord as provided in this Lease, will be removed by Tenant upon the condition that such removal shall not materially damage the Premises or the Building and that the cost of repairing any damage to the Premises or the Building arising from installation or such removal shall be paid by Tenant. The covenants of this Section shall survive the expiration or earlier termination of the Term.

12. ALTERATIONS AND IMPROVEMENTS BY TENANT

The terms and provisions of this Article 12 do not apply to the Tenant Improvement Work (except as to those specific references hereto regarding Landlord's approval standard). Tenant shall make no alterations, decorations, installations, removals, utility installations, repairs additions or improvements (sometimes referred to herein collectively to as "Alterations" or singly as an "Alteration") in or to the Premises without Landlord's prior written consent and unless made by contractors or mechanics reasonably approved by Landlord. No Alterations or work shall be undertaken or begun by Tenant until: (a) Landlord has approved written plans and specifications and a time schedule therefor; (b) Tenant has made provision for either written waivers of liens from all contractors, laborers and suppliers of materials for such Alterations or work as permitted by Chapter 256 of the Massachusetts General Laws, the filing of lien bonds on behalf of such contractors, laborers and suppliers, or other appropriate protective measures approved by Landlord, as and to the extent provided in Section 13(b) below; and (c) Tenant has procured appropriate surety payment and performance bonds, as and to the extent provided in Section 13(b) below. No amendments or additions to such plans and specifications (other than a *de minimis* alteration or addition) shall be made without the prior written consent of Landlord. Landlord's consent and approval required in any instance under this Article 12 shall not be unreasonably withheld, conditioned or delayed as to nonstructural Alterations (nonstructural Alterations being those that (X) do not adversely affect the Building's structure, roof or exterior, or the mechanical, electrical, plumbing, life safety or other Building Systems or the architectural design or use of the Building or Premises, (Y) do not lessen the fair market value of the Building or the Premises, or (Z) do not adversely affect the LEED certifiability of the Building or any improvements therein or any LEED or similar certifications previously obtained with respect to the Building or any improvements therein). With respect to Landlord's review of any plans or specifications for Alterations, or any amendments or modifications thereto, Landlord shall approve (or deny) Tenant's initial submission within ten (10) business days, and any subsequent submittal within five (5) business days. If Landlord denies its approval to any such submittal, it shall provide a written explanation as to the basis of such disapproval and the modifications thereto that Landlord would require in order to issue its approval. This process shall continue until Landlord has approved such plans or specifications. If Landlord fails to approve or deny any such submittal in writing within the foregoing timeframes, then Tenant may send Landlord a second request for approval of such Alteration. If Landlord fails to respond to such second request for approval within five (5) Business Days after its receipt of same, then Landlord shall be deemed to have approved such plans and specifications; *provided that there appears in bold type on the exterior of the envelope containing Tenant's second request, as well as on the top of the written request itself, the statement (in a reasonably large size font and in bold) that Landlord's failure to respond to the request within five (5) Business Days after receipt thereof shall be deemed approval of the within request*, provided, however, that in no event shall Landlord be deemed to have consented to any Alterations or Specialty Alterations that are otherwise expressly prohibited by law. Landlord's approval is solely given for the benefit of Landlord and neither Tenant nor any third party shall have the right to rely upon Landlord's approval of Tenant's plans for any purpose whatsoever. Without limiting the foregoing, Tenant shall be responsible for all elements of the design of Tenant's plans (including, without limitation, compliance with law, functionality of design, the structural integrity of the design, the configuration of the Premises and the placement of Tenant's furniture, appliances and equipment), and Landlord's approval of Tenant's plans shall in no event relieve Tenant of the responsibility for such design. Landlord shall have no liability or responsibility for any claim, injury or damage alleged to have been caused by the particular materials, whether building standard or non-building standard, appliances or equipment selected by Tenant in connection with any Alterations or work performed by or on behalf of Tenant in the Premises including, without limitation, furniture, carpeting, copiers, laser printers, computers and refrigerators. All Alterations made by Tenant shall be made in accordance with plans and specifications which have been approved in writing by the Landlord, pursuant to a duly issued permit to the extent so required by any governmental entity, and in accordance with the provisions of Section 13(c) below, the provisions of this Lease and in a good and first-class workerlike manner using new or like-new materials of same or better quality as base building standard materials, finishes and colors, free of all liens and encumbrances. All such Alterations shall be done at Tenant's sole expense and at such times and in such manner as Landlord may from time to time reasonably designate in consultation with Tenant. All Alterations shall be performed by a contractor or contractors selected by Tenant and reasonably approved in writing by Landlord. Tenant shall reimburse Landlord for any reasonable out-of-pocket costs it incurs in reviewing the plans therefor and in monitoring the construction of the Alterations. If Tenant shall make any Alterations, then Landlord may elect to require the Tenant at the expiration or sooner termination of the Term of this Lease to restore the Premises to substantially the same condition as existed at the Term Commencement Date, provided, however, that Landlord shall be required to notify Tenant in writing of such election simultaneously with Landlord's approval of such Alteration requiring consent hereunder. Tenant shall pay, as an additional charge, the entire increase in real estate taxes on the Building which shall, at any time after the Term Commencement Date (and explicitly excluding Landlord's Work), results exclusively and directly from any Alteration to the Premises made by or for the account of Tenant.

If, as a direct result of any Alterations made by Tenant, Landlord is obligated to comply with the Americans With Disabilities Act or any other federal, state or local laws or regulations and such compliance requires Landlord to make any improvement or alteration to any portion of the Building or the Complex, as a condition to Landlord's consent, Landlord shall have the right to require Tenant to pay to Landlord prior to the construction of any such Alteration by Tenant, the entire cost of any improvement or alteration Landlord is obligated to complete by such law or regulation.

Without limiting any of the terms hereof, Landlord will not be required to approve any Alteration requiring unusual expense to readapt the Premises to normal research and/or laboratory use on lease termination or increasing the cost of construction, insurance or Taxes on the Building or of Landlord's services to the Premises, unless Tenant first gives reasonable assurance or security reasonably acceptable to Landlord that such re-adaptation will be made prior to such termination without expense to Landlord and makes provisions acceptable to Landlord for payment of such increased cost.

Notwithstanding the foregoing or anything to the contrary contained elsewhere in this Article 12, Tenant shall have the right, without Landlord's consent, to make any Alteration that meets all of the following criteria (a "Cosmetic Alteration"): (a) the Alteration is decorative in nature (such as paint, carpet or other wall or floor finishes, movable partitions or other such work), (b) Tenant provides Landlord with not less than seven (7) business days' advance written notice of the commencement of such Alteration (which notice shall include the name and contact information for the contractor(s) performing work in connection therewith, required evidence of insurance and such other reasonable information as Landlord may reasonably require, if any), (c) such Alteration is a nonstructural Alteration (as provided above), (d) the Alteration does not affect the exterior of the Building or Premises and/or is not located on the street level and visible from the exterior of the Building or Premises, and (e) the Alteration work does not require a building permit or other governmental permit, or if a building permit is required, the Alteration work costs less than \$100,000 in each instance. At the time Tenant notifies Landlord of any Cosmetic Alteration, Tenant shall give Landlord a copy of Tenant's plans for the work. If the Cosmetic Alteration is of such a nature that formal plans will not be prepared for the work, Tenant shall provide Landlord with a reasonably specific description of the work.

13. TENANT'S CONTRACTORS-MECHANICS' AND OTHER LIENS-STANDARD OF TENANT'S PERFORMANCE-COMPLIANCE WITH LAWS

Whenever Tenant shall make any Alterations in or to the Premises – whether such work be done prior to or after the Term Commencement Date – Tenant will strictly observe the following covenants and agreements:

(a) Tenant agrees that it will not, either directly or indirectly, use any contractors and/or material suppliers if Tenant has actual knowledge that their use will create any difficulty, whether in the nature of a labor dispute or otherwise, with other contractors and/or labor engaged by Tenant or Landlord or others in the construction, maintenance and/or operation of the Building or any part thereof.

(b) In no event shall any material or equipment be incorporated in or added to the Premises, so as to become a fixture or otherwise a part of the Building, in connection with any such Alteration which is subject to any lien, charge, mortgage or other encumbrance of any kind whatsoever or is subject to any security interest or any form of title retention agreement. No installations or work shall be undertaken or begun by Tenant until (i) Tenant has made provision for written waiver of liens from all contractors, laborers and suppliers of materials for such installations or work, and taken other appropriate protective measures approved by Landlord; and (ii) Tenant has procured appropriate surety payment and performance bonds (which such bonds shall only be required for installation work that exceed \$500,000) which shall name Landlord as an additional obligee and has filed lien bond(s) (in jurisdictions where available) on behalf of such contractors, laborers and suppliers. Any mechanic's lien filed against the Premises or the Building for work claimed to have been done for, or materials claimed to have been furnished to, Tenant shall be discharged by Tenant within ten (10) days thereafter, at Tenant's expense by filing the bond required by law or otherwise. If Tenant fails so to discharge any lien, Landlord may do so at Tenant's expense and Tenant shall reimburse Landlord for any reasonable expense or cost incurred by Landlord in so doing within fifteen (15) days after rendition of a bill therefor.

(c) All installations or work done by Tenant shall be at its own expense and shall at all times comply with (i) laws, rules, orders and regulations of governmental authorities having jurisdiction thereof; (ii) orders, rules and regulations of any Board of Fire Underwriters, or any other body hereafter constituted exercising similar functions, and governing insurance rating bureaus; (iii) Rules and Regulations of Landlord; and (iv) plans and specifications prepared by and at the expense of Tenant theretofore submitted to and approved by Landlord.

(d) Tenant shall procure and deliver to Landlord copies of all necessary permits before undertaking any work in the Premises; do all of such work in a good and workmanlike manner, employing materials of good quality and complying with all governmental requirements; and provide two (2) complete sets of as-built plans (one (1) reproducible CAD or BIM file) and specifications covering any such Alteration or work requiring a building permit; and defend, save harmless, exonerate and indemnify Landlord from all injury, loss or damage to any person or property occasioned by or growing out of such work. Tenant shall cause contractors employed by Tenant to carry Worker's Compensation Insurance in accordance with statutory requirements, Automobile Liability Insurance and, naming Landlord as an additional insured, Builder's Risk insurance, Commercial General Liability Insurance covering such contractors on or about the Premises in the amounts stated in Article 15 hereof or in such other reasonable amounts (which may be lower) as Landlord shall require and to submit certificates evidencing such coverage to Landlord prior to the commencement of such work.

14. REPAIRS BY TENANT-FLOOR LOAD

14.1 Repairs by Tenant. Tenant shall keep all and singular the Premises neat and clean (including periodic rug shampoo and waxing of tiled floors and cleaning of blinds and drapes) and in such repair, order and condition as the same are in on the Term Commencement Date or may be put in during the Term hereof, reasonable use and wearing thereof and damage by fire or by other casualty or condemnation excepted. For purposes of this Lease, the terms "reasonable use and wearing" and "ordinary wear and use" (as referred to in Article 22 herein) and terms of similar meaning constitute that normal, gradual deterioration which occurs due to aging and ordinary use of the Premises despite reasonable and timely maintenance and repair, but in no event shall the aforementioned terms excuse Tenant from its duty to keep the Premises in good maintenance and repair or otherwise usable, serviceable and tenantable as required in the Lease. Tenant shall be solely responsible for the proper maintenance of all equipment and appliances located within or exclusively serving the Premises, including, without limitation, all specialty and/or laboratory equipment and refrigerators. Tenant shall be responsible for janitorial services to be provided to any bathrooms located within the Premises. Tenant shall make, as and when needed as a result of misuse by, or neglect or improper conduct of, Tenant or Tenant's servants, employees, agents, contractors, invitees, or licensees or otherwise, all repairs in and about the Premises necessary to preserve them in such repair, order and condition, which repairs shall be in quality and class equal to the original work, subject to Article 19 below. Landlord may elect, at the expense of Tenant, to make any such repairs or to repair any damage or injury to the Building or the Premises caused by moving property of Tenant in or out of the Building, or by installation or removal of furniture or other property into the Premises, or by misuse by, or neglect, or improper conduct of, Tenant or Tenant's servants, employees, agents, contractors, or licensees, if Tenant fails to perform such work after written notice to Tenant and fails to commence to perform such work within twenty (20) business days thereafter and diligently prosecute the same to completion.

14.2 Floor Load-Heavy Machinery. Tenant shall not place a load upon any floor of the Premises exceeding the floor load per square foot of area which such floor was designed to carry and which is allowed by law. Landlord reserves the right to reasonably prescribe the weight and position of all business machines and mechanical equipment, including safes, which shall be placed so as to distribute the weight. Business machines and mechanical equipment shall be placed and maintained by Tenant at Tenant's expense in settings sufficient in Landlord's judgment to absorb and prevent vibration, noise and annoyance to other tenants or occupants in the Building. Tenant shall not move any safe, heavy machinery, heavy equipment, freight, bulky matter, or fixtures into or out of the Building without Landlord's prior written consent, which consent shall not be unreasonably withheld, conditioned or delayed. If such safe, machinery, equipment, freight, bulky matter

or fixtures requires special handling, Tenant agrees to employ only persons holding a Master Rigger's License to do said work, and that all work in connection therewith shall comply with applicable laws and regulations. Any such moving shall be at the sole risk and hazard of Tenant and Tenant will defend, indemnify and hold Landlord harmless against and from any liability, loss, injury, claim or suit resulting directly or indirectly from such moving. Proper placement of all such business machines, etc., in the Premises shall be Tenant's responsibility.

15. INSURANCE, INDEMNIFICATION, EXONERATION AND EXCULPATION

15.1 **General Liability Insurance.** During the Term of this Lease, Tenant shall procure, and keep in force and pay for:

(a) Commercial General Liability Insurance insuring Tenant on an occurrence basis against all claims and demands for personal injury liability (including, without limitation, bodily injury, sickness, disease, and death) or damage to property (which may be in form no less broad than ISO CG 00 01 12 04 (or the then successor equivalent from time to time)) claimed to have occurred from and after the time Tenant and/or its contractors enter the Premises in accordance with Article 4 of this Lease, of not less than Five Million (\$5,000,000) Dollars (which such limit may be achieved by a combination of primary and excess policies) in the event of personal injury to any number of persons or damage to property, arising out of any one occurrence, and contain the "Amendment of the Pollution Exclusion" for damage caused by heat, smoke or fumes from a hostile fire and include so called "host" liquor liability coverage or other reasonably satisfactory liquor liability coverage as and to the extent Tenant serves beer, wine or liquor at the Premises or (Roof Deck). The policy shall not contain any intra-insured exclusions as between insured persons or organizations, but shall include coverage for liability assumed under this Lease as an "insured contract" for the performance of Tenant's indemnity obligations under this Lease. Landlord may from time to time during the Term increase the coverages required of Tenant under this subparagraph (a) to that customarily carried by office and laboratory tenants in comparable first-class life science buildings in the Seaport District of Boston, Massachusetts.

(b) Workers' Compensation in amounts required by the State in which the Building is located and Employer's Liability insurance in the amount of \$3,000,000.00 per occurrence (which such limit may be achieved by a combination of primary and excess policies).

(c) So called loss of income and extra expense insurance in amounts as will reimburse Tenant for direct or indirect loss of earnings attributable to all peril commonly insured against by prudent lessees in the business of Tenant or attributable to prevention of access to the Premises as a result of such perils.

(d) So called "Special Form" insurance coverage for all of its contents, furniture, furnishings, equipment, Tenant improvements, trade fixtures and personal property (including Tenant's Removable Property) located at the Premises providing protection in an amount equal to one hundred percent (100%) of the replacement cost basis of said items.

(e) Automobile liability insurance covering owned, non-owned and hired vehicles in an amount not less than a combined single limit of \$1,000,000.00 combined single limit.

(f) Any other form or forms of insurance as Tenant or Landlord or any mortgagees of Landlord may reasonably require from time to time in form, in amounts and for insurance risks against which a prudent tenant would protect itself.

15.2 **Certificates of Insurance.** Such insurance shall be effected with insurers reasonably approved by Landlord, authorized to do business in the State wherein the Building is situated under valid and enforceable policies wherein Tenant names Landlord, Landlord's managing agent and Landlord's Mortgagees as additional insureds with respect to Tenant's commercial general liability policy and automobile liability policy. Such insurance shall provide that it shall not be canceled or non-renewed without at least thirty (30) days' prior written notice to each insured named therein. On or before the

time Tenant and/or its contractors enter the Premises in accordance with Articles 4 and 14 of this Lease and thereafter not less than thirty (30) days prior to the expiration date of each expiring policy, original copies of the policies provided for in Article 15.1 or 13(d) issued by the respective insurers, or certificates of such policies setting forth in full the provisions thereof and issued by such insurers together with evidence reasonably satisfactory to Landlord of the payment of all premiums for such policies, shall be delivered by Tenant to Landlord and certificates as aforesaid of such policies shall upon request of Landlord, be delivered by Tenant to the holder of any mortgage affecting the Premises.

15.3 General. To the maximum extent the following agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186, §15), but subject to Tenant's insurance requirements hereunder and Article 15 and Article 19, Tenant will save Landlord, its agents and employees, harmless and will exonerate, defend and indemnify Landlord, its agents and employees, from and against any and all claims, liabilities or penalties asserted by or on behalf of any person, firm, corporation or public authority arising from the Tenant's breach of the Lease or:

(a) On account of or based upon any injury to person, or loss of or damage to property, sustained or occurring on the Premises on account of or based upon the act, omission, fault, negligence or misconduct of any person whomsoever;

(b) On account of or based upon any injury to person, or loss of or damage to property, sustained or occurring elsewhere (other than on the Premises) in or about the Building, Complex, Common Areas or Land (and, in particular, without limiting the generality of the foregoing, on or about the elevators, stairways, public corridors, sidewalks, concourses, arcades, parking areas and facilities, malls, galleries, approaches, areaways, roof, or other appurtenances and facilities used in connection with the Building, Complex, Land or Premises) arising out of the use or occupancy of the Building or Premises by the Tenant, or by any person claiming by, through or under Tenant, or on account of or based upon the act, omission, fault, negligence or misconduct of Tenant, its agents, employees or contractors;

(c) On account of or based upon (including monies due on account of) any work or thing whatsoever done (other than by Landlord or its contractors, or agents or employees of either) on the Premises during the Term of this Lease and during the period of time, if any, prior to the Term Commencement Date that Tenant accesses the Premises; and

(d) Tenant's obligations under this Article 15.3 shall be insured either under the Commercial General Liability Insurance required under Article 15.1, above, or by a contractual liability insurance rider or other coverage; and certificates of insurance in respect thereof shall be provided by Tenant to Landlord upon request.

15.4 Property of Tenant. In addition to and not in limitation of the foregoing, Tenant covenants and agrees that, to the maximum extent this agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186, §15), but subject to Tenant's insurance requirements hereunder and Article 15 and Article 19, all merchandise, furniture, fixtures and property, inventory, research, experiments, laboratory animals, products, specimens, samples, and/or scientific, business, accounting and other records of every kind, nature and description related or arising out of Tenant's leasehold estate hereunder, which may be in or upon the Premises or Building, in the public corridors, or on the sidewalks, areaways and approaches adjacent thereto, and any income derived or derivable therefrom, shall be at the sole risk and hazard of Tenant, and that if the whole or any part thereof shall be damaged, destroyed, stolen or removed from any cause or reason whatsoever, no part of said damage or loss shall be charged to, or borne by, Landlord.

15.5 Bursting of Pipes, etc. To the maximum extent the following agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186, §15), but subject to Tenant's insurance requirements hereunder and Article 15 and Article 19, Landlord shall not be liable for any injury or damage to persons or property resulting from fire, explosion, falling plaster, steam, gas, air contaminants or emissions, electricity, electrical or electronic emanations or disturbance, water, rain or snow or leaks from any part of the Building or from the pipes, appliances, equipment or plumbing works or from the roof, street or subsurface or from any other place or caused by dampness, vandalism, malicious mischief or by any other cause of whatever nature, unless caused by or due to the negligence of Landlord, its agents, servants or employees, and then only after (a) notice to Landlord of the condition claimed to constitute negligence and (b) the expiration of a reasonable time after such notice has been received by Landlord without Landlord having taken all reasonable and practicable means to cure or correct such condition; and pending such cure or correction by Landlord, Tenant shall take all reasonably prudent temporary measures and safeguards to prevent any injury, loss or damage to persons or property. In no event shall Landlord be liable for any loss, the risk of which is covered by Tenant's insurance or is required to be so covered by this Lease; nor shall Landlord or its agents be liable for any such damage caused by other tenants or persons in the Building or caused by operations in construction of any private, public, or quasi-public work; nor shall Landlord be liable for any latent defect in the Premises or in the Building, subject, however, to Section 4.2(i) and Landlord's maintenance and repair obligations hereunder.

15.6 Repairs and Alterations-No Diminution of Rental Value. Except as otherwise provided in Articles 18 or 20 or Section 8.8, there shall be no allowance to Tenant for diminution of rental value and no liability on the part of Landlord by reason of inconvenience, annoyance or injury to Tenant arising from any repairs, alterations, additions, replacements or improvements made by Landlord, or any related work, Tenant or others in or to any portion of the Building or Premises or any property adjoining the Building, or in or to fixtures, appurtenances, or equipment thereof, or for failure of Landlord or others to make any repairs, alterations, additions or improvements in or to any portion of the Building, or of the Premises, or in or to the fixtures, appurtenances or equipment thereof.

15.7 Landlord's Indemnity. To the maximum extent this agreement may be made effective according to law (subject to M.G.L. c. 186, §15), but subject to Article 19 below, Landlord shall indemnify and save harmless Tenant (together with its officers, directors, stockholders, partners, beneficial owners, trustees, managers, members, employees, agents, contractors and attorneys) from and against all claims of whatever nature arising from the negligence or willful misconduct of Landlord, or Landlord's contractors, invitees (excluding other tenants, occupants, licensees and/or users of the Building or Complex), agents, servants or employees ("Landlord's Agents"). Landlord's obligations hereunder shall include any other matters for which Landlord has agreed to indemnify Tenant pursuant to any other provision of this Lease.

15.8 Landlord's Insurance. During the Term of this Lease, Landlord shall obtain and keep in force (a) a policy of commercial general liability insurance providing coverage to Landlord with respect to liability arising out of ownership, operation and management of the Building in an amount of not less than Five Million and 00/100 Dollars (\$5,000,000.00) combined single limit which; (b) a policy or policies of insurance covering loss or damage to the Building, including Base Building Shell Work and Tenant Improvement Work (excluding any Tenant's Removable Property and/or other Tenant furniture, trade fixtures, equipment, specialty equipment or other personal property) caused by any peril covered under fire, extended coverage and "Special Form" insurance in an amount not less than the replacement cost value above the foundation walls, as reasonably determined by Landlord from time to time, subject to commercially reasonable deductibles and retention, but in no event less coverage than the coverage that is consistent with that maintained by prudent owners of comparable first-class life science buildings in the Seaport District of Boston, Massachusetts; (c) workers' compensation in amounts required by the State in which the Building is located; and (d) such other insurance coverages and policies as Landlord determines in its sole but good faith judgment. Any such coverages may be effected directly and/or through the use of blanket insurance coverage covering more than one location and may contain such commercially reasonable deductibles as Landlord may elect in its reasonable discretion. The cost of such insurance shall be included in Operating Costs.

16. ASSIGNMENT, MORTGAGING AND SUBLETTING

16.1 Generally.

(a) Notwithstanding any other provisions of this Lease, Tenant covenants and agrees that it will not assign this Lease or sublet (which term, without limitation, shall include the granting of any concessions, licenses, occupancy rights, management arrangements and the like) the whole or any part of the Premises to anyone, other than a Permitted Transferee, as hereinafter defined, without, in each instance, except as otherwise expressly set forth in this Article, having first received the express, written consent of Landlord, which consent shall not be unreasonably withheld, conditioned or delayed. A change in Tenant's name shall not constitute an assignment or sublease hereunder, provided Tenant notifies Landlord in writing of such name change prior to making such change. Tenant shall not collaterally assign this Lease (or any portion thereof) or permit any assignment of this Lease by mortgage, other encumbrance or operation of law.

(b) Without limitation, it shall not be unreasonable for Landlord to withhold such approval from any assignment or subletting where, in Landlord's opinion: (i) the proposed assignee satisfies the Net Worth Test (as defined in Section 16.3(c) below) or any sublessee of thirty percent (30%) or more of the Premises does not have a financial standing and credit rating reasonably acceptable to Landlord taking into account Tenant's continuing liability hereunder; (ii) the proposed assignee or sublessee has a bad reputation in the community; (iii) the business in which the proposed assignee or sublessee is engaged could detract from the Building, its value or the costs of ownership thereof; (iv) the rent to be paid by any proposed sublessee is less than ninety percent (90%) of the then current fair market rent; (v) the proposed sublessee or assignee is a current tenant of, or a prospective tenant in formal discussions with Landlord regarding the leasing of space in (meaning such tenant has been shown space in the Building (or any portion of the Complex owned or controlled by a Landlord Party (as defined below) and Landlord (or Landlord Party) and such person or entity, or their brokers, have exchanged a letter of intent, even if not letter of intent has been executed); (vi) the use of the Premises by any sublessee or assignee (even though a permitted use hereunder) violates any exclusive use or other use restriction in existence as of the Term Commencement Date granted by Landlord in any other lease or would otherwise cause Landlord to be in violation of its obligations under another lease or agreement to which Landlord is a party; (vii) if such assignment or subleasing is not approved of by the holder of any mortgage on the Building or Land (if such approval is required); (viii) a proposed assignee's or subtenant's business will impose a burden on the Common Areas or other facilities serving the Building or the Land that is greater than the burden imposed by Tenant, in Landlord's reasonable judgment; (ix) any guarantor of this Lease refuses to consent to the proposed transfer or to execute a written agreement reaffirming the guaranty; (x) Tenant is in default, beyond any applicable notice or Grace Period, of any of its obligations under the Lease at the time of the request or at the time of the proposed assignment or sublease; (xi) if requested by Landlord, the assignee or subtenant refuses to sign a commercially reasonable non-disturbance and attornment agreement in favor of Landlord's lender; (xii) Landlord has sued or been sued by the proposed assignee or subtenant or has otherwise been involved in a legal dispute with the proposed assignee or subtenant; (xiii) the assignee or subtenant is involved in a business which is not in keeping with the then current standards of the Building; (xiv) the assignment or sublease will result in there being more than four (4) separately demised occupants (either Tenant or subtenants) of the fourth (4th) floor of the Premises or more than three (3) separately demised occupants (either Tenant or subtenants) of the third (3rd) floor of the Premises, but in no event shall any assignment, subleasing or granting of occupancy rights result in a violation or breach of the Current Exclusive; or (xv) the assignee or subtenant is a governmental or quasi-governmental entity or an agency, department or instrumentality of a governmental or quasi-governmental agency. In no event, however, shall Tenant assign this Lease or sublet the whole or any part of the Premises to a proposed assignee or sublessee which has been judicially declared bankrupt or insolvent according to law, or with respect to which an assignment has been made of property for the benefit of creditors, or with respect to which a receiver, guardian, conservator, trustee in involuntary bankruptcy or similar officer has been appointed to take charge of all or any substantial part of the proposed assignee's or sublessee's property by a court of competent jurisdiction, or with respect to which a petition has been filed for reorganization under any provisions of the Bankruptcy Code now or hereafter enacted, or if a proposed assignee or sublessee has filed a petition for such reorganization, or for arrangements under any provisions of the Bankruptcy Code now or hereafter enacted and providing a plan for a debtor to settle, satisfy or extend the time for the payment of debts.

(c) Any request by Tenant for such consent shall set forth or be accompanied by, in detail reasonably satisfactory to Landlord, the identification of the proposed assignee or sublessee, its financial condition, a list of Hazardous Materials (as defined below), certified by the proposed assignee or sublessee to be true and correct, which the proposed assignee or sublessee intends to use, store, handle, treat, generate in or release or dispose of from the Premises, together with copies of all documents relating to such use, storage, handling, treatment, generation, release or disposal of Hazardous Materials by the proposed assignee or subtenant in or about the Premises (if same is different from Tenant's then current Hazardous Materials activities), the nature of the proposed assignee's or sublessee's

business, their proposed use of the Premises and their business experience in the uses thereof and the terms on which the proposed assignment or subletting is to be made, including, without limitation, a signed copy of all assignment or sublease documents, and clearly stating the rent or any other consideration to be paid in respect thereto, certificates of good standing (or certificates of qualification to do business in the Commonwealth if such proposed assignee or sublessee is a foreign entity) of the proposed assignee or sublessee issued by the Secretary of the Commonwealth of Massachusetts; the filing with EDIC by the proposed assignee or subtenant of a statement disclosing the identification of all parties who are required to be disclosed pursuant to Massachusetts General Laws, Chapter 7C, Section 38, as having a beneficial interest, direct or indirect, in the Lease after the assignment or in the Sublease as of the date of execution thereof, and a supplemental statement upon any change in such parties during the terms thereof within thirty (30) days of any such change, all in compliance with Massachusetts General Laws, Chapter 7C, Section 38, and any other information reasonably requested by Landlord (or EDIC); and such request shall be treated as Tenant's warranty to the best of Tenant's knowledge in respect of the information submitted therewith. If requested, Landlord shall enter into a commercially reasonable non-disclosure agreement required by Tenant or any such proposed transferee with respect to any financial or other confidential information of such Transferee to be provided to Landlord as required herein. Tenant's request shall not be deemed complete or submitted until all of the foregoing information has been received by Landlord. Landlord shall respond in writing to such written request for consent within twenty (20) days following Landlord's receipt of all information, documentation and security required by Landlord with respect to such proposed sublease or assignment; provided EDIC approval, if required, may take longer.

(d) Any assignee or sublessee hereunder shall comply with the Non-Discrimination and Equal Opportunity Covenants set forth in Section 16.1 of the EDIC Lease and Employment of Boston Residents set forth in Section 18.36 and Exhibit O of the EDIC Lease, which are restated in full in Exhibit 7 attached hereto, wherein the term "Tenant" shall mean Tenant hereunder and "Landlord" shall mean the Landlord under the EDIC Lease.

(e) The foregoing restrictions shall be binding on any assignee or sublessee to which Landlord has consented, provided, notwithstanding anything else contained in this Lease, Landlord's consent to any further assignment, subleasing or any sub-subleasing by any approved assignee or sublessee may be withheld by Landlord as provided in this Article 16.

(f) Consent by Landlord to any subleasing shall not include consent to the assignment or transferring of any lease renewal, extension or other option, first offer, first refusal or other rights granted hereunder, or any special privileges or extra services granted to tenant by separate agreement (written or oral), or by addendum or amendment of the Lease.

(g) In the case of any assignment of this Lease or subletting of the Premises, the Tenant named herein shall be and remain fully and primarily liable for the obligations of Tenant hereunder, notwithstanding such assignment or subletting, including, without limitation, the obligation to pay the Yearly Rent and other amounts provided under this Lease, and the Tenant shall be deemed to have waived all suretyship defenses.

(h) In addition to the foregoing, it shall be a condition of the validity of any such assignment or subletting that the assignee or sublessee agrees directly with Landlord, in form satisfactory to Landlord, to be bound by all the obligations of Tenant hereunder, but excluding, in the case of a sublease, the obligation to pay Yearly Rent and other amounts provided for under this Lease (except to the extent passed through to Subtenant pursuant to the sublease), the covenant regarding use and the covenant against further assignment and subletting (and that (i) any sublessee agree it will not breach, or cause Landlord to breach, any of the provisions of the EDIC Lease applicable to the Premises; and (ii) subject to Section 23(a) below, any sublease shall, in the event the EDIC Lease is terminated prior to the expiration of such sublease, then at EDIC's option, the sublessee thereunder will either attorn to EDIC and waive any right the sublessee may have to terminate the sublease, or surrender possession thereunder as a result of the termination of the EDIC Lease, and the sublease shall terminate simultaneously with the termination or expiration of the EDIC Lease; and (iii) that in the event any sublessee receives a written notice from EDIC stating that an Event of Default has occurred under the EDIC, the sublessee shall thereafter be obligated to pay all rentals accruing under such sublease directly to EDIC or as EDIC may direct.

16.2 Reimbursement, Recapture and Excess Rent.

(a) Tenant shall, within thirty (30) days after receipt on an invoice therefor, reimburse Landlord for the reasonable, actual out-of-pocket fees and expenses (including legal and administrative fees and costs) incurred by Landlord in processing any request to assign this Lease or to sublet all or any portion of the Premises, whether or not Landlord agrees thereto, and if Tenant shall fail promptly so to reimburse Landlord, the same shall be a default in Tenant's monetary obligations under this Lease subject to the Monetary Grace Period, if applicable, set forth in Section 21.7 below.

(b) If Tenant requests Landlord's consent to assign this Lease or sublet (or otherwise grant occupancy rights in and to) all or more than fifty percent (50%) of the Total Rentable Area Premises, except in the case of a Permitted Transferee, Landlord shall have the option, exercisable by written notice to Tenant given within twenty (20) days after Landlord's receipt of Tenant's completed request, to terminate this Lease as of the date specified in such notice from Landlord to Tenant, which termination shall not be effective less than sixty (60) nor more than one hundred twenty (120) days after the date of such notice, as to the entire Premises in the case of a proposed assignment or subletting of the whole Premises, and as to the portion of the Premises to be sublet in the case of a subletting of a portion. In the event of termination in respect of a portion of the Premises, the portion so eliminated shall be delivered to Landlord on the date specified in the manner provided in this Lease at the end of the Term and thereafter, to the extent necessary in Landlord's reasonable judgment, Landlord, at its own cost and expense, may have access to and may make modification to the Premises (or portion thereof) to the extent reasonably necessary and in consultation with Tenant so as to make such portion a self-contained rental unit with access to common areas, elevators and the like. Yearly Rent and the rentable floor area of the Premises (and any calculations based thereon) shall be adjusted according to the extent of the Premises for which the Lease is terminated. Notwithstanding the foregoing, if Landlord exercises its foregoing recapture rights, then Tenant, upon written notice to Landlord, may revoke its request for Landlord's consent to an assignment of this Lease or sublease of more than 50% of the Total Rentable Area of the Premises within ten (10) business days of its receipt of Landlord's termination notice, in which case this Lease shall not terminate and shall remain in full force and effect with respect to the entire Lease, in the case of any assignment of this Lease, or to the portion of the Premises proposed by Tenant to be sublet in the case of a sublease of more than 50% of the Total Rentable Area of the Premises.

(c) Without limitation of the rights of Landlord hereunder in respect thereto, if there is any assignment of this Lease by Tenant for consideration or a subletting of the whole of the Premises by Tenant at a rent which exceeds the rent payable hereunder by Tenant, or if there is a subletting of a portion of the Premises by Tenant at a rent in excess of the subleased portion's pro rata share of the rent payable hereunder by Tenant, then Tenant shall pay to Landlord, as Additional Rent, within thirty (30) days after Tenant's receipt of the same, in the case of an assignment, fifty percent (50%) of all of the consideration (or the cash equivalent thereof) therefor and in the case of a subletting, all of any such excess rent. For the purposes of this subsection, the term "rent" shall mean all Yearly Rent, Additional Rent or other payments and/or consideration payable by one party to another for the use and occupancy of all or a portion of the Premises including, without limitation, key money, or bonus money paid by the assignee or subtenant to Tenant in connection with such transaction and any payment in excess of fair market value for services rendered by Tenant to the assignee or subtenant or for assets, fixtures, inventory, equipment or furniture transferred by Tenant to the assignee or subtenant in connection with any such transaction, but shall exclude any separate payments by Tenant for reasonable attorney's fees and broker's commissions and market-based tenant improvement costs to ready the Premises (or portion thereof) for such transferee's occupancy, free rent periods, attorneys' fees, and other such third party costs incurred by Tenant and relating to such transfer, such costs to be amortized ratably over the term of such transfer.

(d) Notwithstanding anything contained in this Article 16, Landlord will have the right to (i) negotiate directly with any proposed assignee or sublessee of Tenant, and (ii) enter into a direct lease with any proposed assignee or sublessee of Tenant for any space in the Building or Complex, including the space covered by the proposed sublease or assignment, on such terms and conditions as are mutually acceptable to the proposed assignee or sublessee.

(e) The following terms and conditions shall apply to any subletting by Tenant of all or any part of the Premises and shall be deemed included in all subleases under this Lease whether or not expressly incorporated therein:

Tenant hereby absolutely and unconditionally assigns and transfers to Landlord all of Tenant's interest in all rentals and income arising from any sublease entered into by Tenant, and Landlord may collect such rent and income and apply same toward Tenant's obligations under this Lease; provided, however, that until a default

occurs in the performance of Tenant's obligations under this Lease, Tenant may receive, collect and enjoy the rents accruing under such sublease. Landlord shall not, by reason of this or any other assignment of such rents to Landlord nor by reason of the collection of the rents from a subtenant, be deemed to have assumed or recognized any sublease or to be liable to the subtenant for any failure of Tenant to perform and comply with any of Tenant's obligations to such subtenant under such sublease, including, but not limited to, Tenant's obligation to return any security deposit. Tenant hereby irrevocably authorizes and directs any such subtenant, upon receipt of a written notice from Landlord (with copy to Tenant) stating that a default exists in the performance of Tenant's obligations under this Lease, to pay to Landlord the rents due as they become due under the sublease. Tenant agrees that such subtenant shall have the right to rely upon any such statement and request from Landlord, and that such subtenant shall pay such rents to Landlord without any obligation or right to inquire as to whether such default exists and notwithstanding any notice from or claim from Tenant to the contrary. In the event Tenant shall default in the performance of its obligations under this Lease or Landlord terminates this Lease by reason of a default of Tenant, Landlord at its option and without any obligation to do so, may require any subtenant to attorn to Landlord, in which event Landlord shall undertake the obligations of Tenant under such sublease from the time of the exercise of said option to the termination of such sublease; provided, however, Landlord shall not be liable for any prepaid rents or security deposit paid by such subtenant to Tenant, except to the extent actually received by Landlord, or for any other prior defaults of Tenant under such sublease.

16.3 Certain Transfers.

(a) The provisions of this Section 16.3(a) shall not be applicable so long as the Tenant is a corporation, the outstanding voting stock of which is listed on a recognized security exchange, or if at least eighty percent (80%) of Tenant's ownership interests is owned by corporation or other entity, the voting stock of which is so listed. If at any time Tenant's interest in this Lease is held by a corporation, trust, partnership, limited liability company or other entity, the transfer of more than fifty percent (50%) (or such lesser percentage which results in a change in the control of Tenant) of the voting stock, beneficial interests, partnership interests, membership interests or other ownership interests of Tenant (whether at one time or in the aggregate) shall be deemed an assignment of this Lease, and shall require Landlord's prior written consent, which consent shall not unreasonably be withheld, delayed or conditioned provided, however, it shall not be unreasonable for Landlord to withhold such approval for any of the reasons set forth in Section 16.1(b).

(b) To enable Landlord to determine the ownership of Tenant, Tenant agrees to furnish to Landlord, from time to time promptly after Landlord's request therefor, (i) if the first sentence of subsection 16.3(a) is applicable, proof of listing on a recognized security exchange, or (ii) if the first sentence of subsection 16.3(a) is not applicable, an accurate and complete listing of the holders of its stock, beneficial interests, partnership interests, membership interests or other ownership interests therein as of such request and as of the date of this Lease. Landlord shall execute a commercially reasonable non-disclosure agreement prior to Tenant's obligation to deliver such information, whereupon Landlord shall keep confidential any information received by Landlord pursuant to this Section 16.3(b), provided, however, that Landlord shall have the right to disclose any such information to existing or prospective mortgagees, or prospective purchasers of the Building, to the extent reasonably necessary or so requested provided such mortgagees or purchasers agree to be bound by such non-disclosure agreement.

(c) Notwithstanding any other provision of this Article 16, transactions with an entity (a "Permitted Transferee") (i) into or with which Tenant is merged or consolidated, (ii) to which substantially all of Tenant's assets are transferred as a going concern, or (iii) which controls or is controlled by Tenant or is under common control with Tenant, shall not be deemed to be an assignment or subletting within the meaning of this Article 16, provided that in any of such events (i.e., (i), (ii) or (iii)) (1) Landlord receives prior written notice of any such transactions, except in the event where Tenant is contractually obligated to keep confidential such matters relating to the transaction with the Permitted Transferee, in which case Tenant shall provide such notice to Landlord promptly after the closing of such transaction, (2) the assignee or subtenant agrees directly with Landlord, by written instrument in form satisfactory to Landlord, to be bound by all the obligations of Tenant hereunder including, without limitation, the covenant against further assignment and subletting (excepting in the case of subleasing, as appropriately modified by the nature of the transaction (e.g., a subtenant shall be obligated to pay only the rent required under such sublease), but in no way otherwise amending the terms and conditions of this Lease), (3) in no event shall Tenant be released from its obligations under this Lease, (4) any such transfer or transaction is for a legitimate, regular business purpose of Tenant

other than a transfer of Tenant's interest in this Lease, (5) the involvement by Tenant or its assets in any transaction, or series of transactions (by way of merger, sale, acquisition, financing, refinancing, transfer, leveraged buy-out or otherwise) whether or not a formal assignment or hypothecation of this Lease or Tenant's assets occurs, will not result in a reduction of the "Net Worth" of Tenant (or the successor to Tenant's interest in the Lease pursuant thereto) as hereinafter defined, by an amount equal to such Net Worth of Tenant as it is represented to Landlord at the time of the execution by Landlord of this Lease, or as it exists immediately prior to said transaction or transactions constituting such reduction, at whichever time said Net Worth of Tenant was or is greater (the "Net Worth Test"), and (6) Landlord must obtain any EDIC consent thereto as and to the extent provided in the EDIC Lease (defined below). "Net Worth" of Tenant for purposes of this section shall be the tangible net worth of Tenant (excluding any guarantors) established under generally accepted accounting principles consistently applied.

(d) Notwithstanding anything in this Lease to the contrary, including this Section 16.3, Tenant shall have the right (without Landlord's consent but upon reasonable prior notice) to enter into licenses or other occupancy agreements to allow Tenant's Affiliates (as defined below), for so long as same remain a Tenant's Affiliate, to use and occupy the Premises, provided that (A) such parties shall not be deemed to be subtenants or assignees of Tenant at the Premises, and (B) Tenant shall ensure that such parties comply with all terms and conditions of this Lease. For purposes of the prior sentence, "Tenant's Affiliate" means any entity owned or controlled by Tenant (for so long as same remains so owned or controlled). In addition, any space occupied by a Tenant's Affiliate shall be included as space occupied by Tenant for purposes of Tenant's additional benefits or rights under this Lease including, without limitation, Sections 17.4(a) (Signage), 29.16(a) (Option to Extend) and 29.18 (Right of First Offer).

17. MISCELLANEOUS COVENANTS

Tenant covenants and agrees as follows:

17.1 Rules and Regulations. Tenant will faithfully observe and comply with the Rules and Regulations, if any, annexed hereto, including without limitation the current rules and regulations, a copy of which are attached hereto as Exhibit 5 and such other and further reasonable Rules and Regulations as Landlord hereafter at any time or from time to time may make and may communicate in writing to Tenant (the "Rules and Regulations"), which in the reasonable judgment of Landlord shall be necessary for the reputation, safety, care or appearance of the Building, or the preservation of good order therein, or the operation or maintenance of the Building, or the equipment thereof, or the comfort of tenants or others in the Building, provided, however, that in the case of any conflict between the provisions of this Lease and any such regulations, the provisions of this Lease shall control, and provided further that nothing contained in this Lease shall be construed to impose upon Landlord any duty or obligation to enforce the Rules and Regulations or the terms, covenants or conditions in any other lease as against any other tenant and Landlord shall not be liable to Tenant for violation of the same by any other tenant or such other tenant's servants, employees, agents, contractors, visitors, invitees or licensees (provided, however, if Landlord enforces the Rules and Regulations, it shall enforce them in a non-discriminatory manner against all tenants in the Building).

17.2 Access to Premises. Tenant shall upon reasonable prior notice from Landlord (except that no notice shall be required in emergency situations): (a) permit Landlord to erect, use and maintain pipes, ducts and conduits in and through the Premises, provided the same do not materially reduce the floor area or materially adversely affect the appearance thereof; (b) upon reasonable prior oral notice (except that no notice shall be required in emergency situations), permit Landlord and any mortgagee of the Building or the Building and Land or of the interest of Landlord therein, and any lessor under any ground or underlying lease, and their representatives, to have access to and to enter upon the Premises at all reasonable hours for the purposes of inspection or of making repairs, replacements or improvements in or to the Premises or the Building or equipment (including, without limitation, sanitary, electrical, heating, air conditioning or other systems) or of complying with all laws, orders and requirements of governmental or other authority or of exercising any right reserved to Landlord by this Lease (including the right during the progress of any such repairs, replacements or improvements or while performing work and furnishing materials in connection with compliance with any such laws, orders or requirements to take upon or through, or to keep and store within, the Premises all necessary materials, tools and equipment); and (c) permit Landlord, at reasonable times, to show the Premises during ordinary

business hours to any existing or prospective mortgagee, ground lessor, space lessee, purchaser, or assignee of any mortgage, of the Building or of the Building and the land or of the interest of Landlord therein, and during the period of twelve (12) months next preceding the Termination Date to any person contemplating the leasing of the Premises or any part thereof. Landlord and Tenant shall cooperate in good faith to schedule any such access such that Tenant or a representative of Tenant may be personally present to open and permit an entry into the Premises and may accompany Landlord and its visitors, and further provided, except in the event of an emergency, Landlord shall not access the vivarium without being accompanied by a representative of Tenant. If an excavation shall be made upon land adjacent to the Premises or shall be authorized to be made, Tenant shall afford to the person causing or authorized to cause such excavation, license to enter upon the Premises for the purpose of doing such work as said person shall deem necessary to preserve the Building from injury or damage and to support the same by proper foundations without any claims for damages or indemnity against Landlord, or diminution or abatement of rent. In exercising its right of entry hereunder, Landlord shall (i) use good faith, commercially reasonable efforts to minimize any interference with Tenant's use and occupancy of the Premises or its business operations therein, (ii) not reduce (except to a de minimis extent) the number of usable square feet in the Premises, which means that, without limitation, any structures, facilities or improvements made by Landlord and installed in the Premises shall, to the extent practical, be behind finished walls, above ceiling titles (if any) or against the underside of the roof deck or below any finished flooring, or (iii) create undue noise and vibration that interferes with Tenant's use or occupancy of the Premises.

17.3 Accidents to Sanitary and Other Systems. Tenant shall give to Landlord prompt notice of any fire or accident in the Premises or in the Building and of any damage to, or defective condition in, any part or appurtenance of the Building including, without limitation, sanitary, electrical, ventilation, heating and air conditioning or other systems located in, or passing through, the Premises. Except as otherwise provided in Articles 18, 19 and 20, and subject to Tenant's obligations in Article 14, such damage or defective condition shall be remedied by Landlord with commercially reasonable diligence, but if such damage or defective condition was caused by Tenant or by the employees, licensees, contractors or invitees of Tenant, the cost to remedy the same shall be paid by Tenant. In addition, all reasonable costs incurred by Landlord in connection with the investigation of any notice given by Tenant shall be paid by Tenant if the reported damage or defective condition was caused by Tenant or by the employees, licensees, contractors, or invitees of Tenant, subject to Article 19.

17.4 Signs, Blinds and Drapes. (a) Signage. Subject to the provisions of this Section 17.4(a), and provided that (i) this Lease is still in full force and effect, and (ii) the Tenant originally named herein (including any Tenant Affiliate(s)) or a Permitted Transferee is leasing 100% of, and occupying at least 75% of, the Rentable Area of the Premises for the principal and primary uses allowed hereunder, the Tenant originally named herein or a Permitted Transferee, as the case may be, shall have the signage rights set forth in this Subsection (a) and (b) for the sole purpose of identifying Tenant or Permitted Transferee, as the case may be, subject to the terms and conditions hereof (collectively, "Tenant Signage"), at Tenant's sole cost and expense. All of the Tenant Signage (including location, size, design, logo, color(s) and degree of illumination, if any, and method of attachment to the Building) shall be subject to the prior approval of Landlord (such approval not to be unreasonably withheld, conditioned or delayed) and installed, maintained and operated in compliance with all applicable laws, rules, regulations, ordinances, and restrictions. If necessary, Landlord shall provide electrical service to the exterior portion of the Building approximately where Tenant's Signage is to be located at Landlord's actual reasonable cost, reimbursed by Tenant. Tenant shall be responsible for obtaining and maintaining all necessary permits and approvals for all such Tenant Signage (and Landlord shall reasonably cooperate with Tenant in connection therewith at no additional cost or liability to Landlord), along with all costs and expenses incurred by Landlord in connection therewith (including any taxes or assessments thereon and the cost of providing and maintaining electrical service thereto). Tenant shall pay such amounts within thirty (30) days of Landlord's invoice therefor, provided, however, that Building standard signage in the building directory shall be at Landlord's cost and expense. At the expiration of earlier termination of the Lease, or in the event the Tenant originally named herein or a Permitted Transferee ceases to lease 100% of, or occupy at least 75% of, the Rentable Area of the Premises, all as provided above, (except for periods of casualty, restoration or remodeling), Landlord shall have the right, at Tenant's sole and reasonable cost and expense, to remove Tenant's Signage and repair and restore the Building to the substantially the same condition existing prior to such installation, or at Landlord's election, Landlord shall require Tenant to so repair or restore. Subject to the provisions hereof, Landlord reserves the right to retain and grant other parties signage rights in, on or about the Building. Except as expressly set forth in this Section 17.4,

Tenant shall put no signs in any part of the Common Areas of the Building or Complex. Any signs or lettering in the public corridors or on the doors shall conform to Landlord's building standard design. Neither Landlord's name, nor the name of the Building or Complex of which the Building is a part, or the name of any other structure erected therein shall be used without Landlord's consent, not to be unreasonably withheld, conditioned, or delayed, in any advertising material (except on business stationery or as an address in advertising matter), nor shall any such name, as aforesaid, be used in any undignified, confusing, detrimental or misleading manner.

(b) Exterior and Lobby Tenant Signage. Subject to Subsection (a) above, Tenant shall have the right to install and maintain, at Tenant's sole cost and expense, the exterior Tenant Signage and lobby Tenant Signage as more particularly shown on Exhibit 11 (the "Lobby Sign"). So long as Tenant (including any Tenant Affiliate(s)) or a single Permitted Transferee is leasing 100% of, and occupying substantially all of, the Rentable Area of the Premises for the principal and primary uses set forth in Exhibit 1, primarily for life science purposes, no other future tenant in the Building leasing less space than Tenant shall receive more favorable (in terms of size or prominence of signage) exterior or lobby signage rights in or at the Building; provided, however, the foregoing restriction shall not apply to any tenant or occupant of the Building that has its own exclusive Building entrance.

(c) Directory and Building Standard Signage. Tenant shall be entitled at no cost to Tenant to have its name (and other Building standard information) inserted in any Building or Complex main directory so long as such directory is established and maintained by Landlord and to have Tenant's name in any lobby directory (if any) of any multi-tenanted floor containing a portion of the Premises along with Building standard suite signage; provided, however, changes to such signage and directory(ies) required by changes in Tenant's name or expansion or as the result of a transfer in accordance with Article 16 above, shall be at Tenant's sole cost and expense.

(d) Blinds and Drapes. No signs or blinds may be put on or in any window or elsewhere if visible from the exterior of the Building, nor may the building standard drapes or blinds be removed by Tenant. Tenant may hang its own drapes, provided that they shall not in any way interfere with the building standard drapery or blinds or be visible from the exterior of the Building and that such drapes are so hung and installed that when drawn, the building standard drapery or blinds are automatically also drawn.

17.5 Estoppel Certificate and Financial Statements. Tenant shall at any time and from time to time upon not less than twelve (12) business days' prior written notice by Landlord to Tenant, execute, acknowledge and deliver to Landlord a statement in writing certifying that this Lease is unmodified and in full force and effect (or if there have been modifications, that the same is in full force and effect as modified and stating the modifications), and the dates to which the Yearly Rent and other charges have been paid in advance, if any, stating whether or not Landlord is in default in performance of any covenant, agreement, term, provision or condition contained in this Lease and, if so, specifying each such default and such other facts as Landlord may reasonably request, it being intended that any such statement delivered pursuant hereto may be relied upon by any prospective purchaser of the Building or of the Building and the land or of any interest of Landlord therein, any mortgagee or prospective mortgagee thereof, any lessor or prospective lessor thereof, any lessee or prospective lessee thereof, or any prospective assignee of any mortgage thereof. Time is of the essence in respect of any such requested certificate, Tenant hereby acknowledging the importance of such certificates in mortgage financing arrangements, prospective sale and the like. If Tenant fails to execute and deliver such statement within such 12-business day period, Landlord shall so notify Tenant in writing, and thereafter if Tenant does not execute and deliver such statement to Landlord within three (3) business days, then Tenant hereby appoints Landlord Tenant's attorney-in-fact in its name and behalf to execute such statement. If requested by Tenant, Landlord shall execute and deliver an estoppel certificate to Tenant on the same terms and conditions as this Section 17.5 Within 120 days after the end of Tenant's fiscal years during the Term of this Lease, Tenant agrees to furnish to Landlord copies of Tenant's most recent annual financial statements, audited if available (if such audited financial statement is not available, such financial statement may be certified by an officer (vice president or higher) of Tenant). The financial statements shall be prepared in accordance with generally accepted accounting principles, consistently applied. The financial statements shall include a balance sheet and a statement of profit and loss, and the annual financial statement shall also include a statement of changes in financial position and appropriate explanatory notes. Prior to the delivery of such financial statements, Landlord shall enter into a commercially reasonably non-disclosure agreement, and Landlord may deliver the financial statements to any prospective or existing mortgagee or purchaser of the Building and/or Land provided that such mortgagee or purchaser also enter into such non-disclosure agreement.

17.6 Prohibited Materials and Property. Except as otherwise expressly provided in this Lease, Tenant shall not bring or permit to be brought or kept in or on the Premises or elsewhere in the Building (a) any inflammable, combustible or explosive fluid, material, chemical or substance including, without limitation, any hazardous substances as defined under Massachusetts General Laws chapter 21E, the Federal Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 USC §9601 et seq., as amended, under Section 3001 of the Federal Resource Conservation and Recovery Act of 1976, as amended, or under any regulation of any governmental authority regulating environmental or health matters (except for standard office supplies stored in proper containers), (b) any materials, appliances or equipment (including, without limitation, materials, appliances and equipment selected by Tenant for the construction or other preparation of the Premises and furniture and carpeting) which pose any danger to life, safety or health or may cause damage, injury or death, or (c) any unique, unusually valuable, rare or exotic property, work of art or the like unless the same is fully insured under all-risk coverage. Nor shall Tenant cause or permit any potentially harmful air emissions, odors of cooking or other processes, or any unusual or other objectionable odors or emissions to emanate from or permeate the Premises.

17.7 Requirements of Law-Fines and Penalties. Tenant at its sole expense shall comply with all laws, rules, orders and regulations, including, without limitation, all energy-related requirements, of Federal, State, County and Municipal Authorities and with any direction of any public officer or officers, pursuant to law, which shall impose any duty upon Landlord or Tenant with respect to or arising out of Tenant's use or occupancy of the Premises. Tenant shall reimburse and compensate Landlord for all expenditures made by, or damages or fines sustained or incurred by, Landlord due to nonperformance or noncompliance with or breach or failure to observe any item, covenant, or condition of this Lease upon Tenant's part to be kept, observed, performed or complied with. If Tenant receives notice of any violation of law, ordinance, order or regulation applicable to the Premises, it shall give prompt notice thereof to Landlord.

17.8 Tenant's Acts—Effect on Insurance. Tenant shall not do or permit to be done any act or thing upon the Premises or elsewhere in the Building which will invalidate or be in conflict with any insurance policies covering the Building and the fixtures and property therein; and shall not do, or permit to be done, any act or thing upon the Premises which shall subject Landlord to any liability or responsibility for injury to any person or persons or to property by reason of any business or operation being carried on upon said Premises or for any other reason. Landlord represents and warrants to Tenant that the insurance policies covering the Building allow the Permitted Use without taking into account Tenant's specific manner of use(s) thereunder. Tenant at its own expense shall comply with all rules, orders, regulations and requirements of the Board of Fire Underwriters, or any other similar body having jurisdiction, and shall not (a) do, or permit anything to be done, in or upon the Premises, or bring or keep anything therein, except as now or hereafter permitted by the Fire Department, Board of Underwriters, Fire Insurance Rating Organization, or other authority having jurisdiction, and then only in such quantity and manner of storage as will not increase the rate for any insurance applicable to the Building, or (b) use the Premises in a manner which shall increase such insurance rates on the Building, or on property located therein, over that applicable when Tenant first took occupancy of the Premises hereunder. If by reason of the failure of Tenant to comply with the provisions hereof the insurance rate applicable to any policy of insurance shall at any time thereafter be higher than it otherwise would be, the Tenant shall reimburse Landlord for that part of any insurance premiums thereafter paid by Landlord, which shall have been charged because of such failure by Tenant.

17.9 Miscellaneous. Tenant shall not suffer or permit the Premises or any fixtures, equipment or utilities therein or serving the same, to be overloaded, damaged or defaced. Tenant shall not suffer or permit any employee, contractor, business invitee or visitor to violate any covenant, agreement or obligations of the Tenant under this Lease.

18. DAMAGE BY FIRE, ETC.

(a) If the Premises or the Building are damaged in whole or in part by any fire or other casualty (a "casualty"), Tenant shall promptly give notice thereof to the Landlord. Unless this Lease is terminated as provided herein, the Landlord, at its own expense (except for any insurance deductibles, which shall be deemed Operating Costs), and proceeding with due diligence and all reasonable dispatch, but subject to delays related to any event(s) of Force Majeure, shall repair and reconstruct, and shall diligently prosecute the same to completion, the same so as to restore the Premises and Building (including, without limitation, the Landlord's Work, but not any Alterations made by or for Tenant or any trade fixtures, equipment or personal property owned by Tenant) to substantially the same condition they were in prior to the casualty, subject to zoning, building and other laws then in effect. Notwithstanding the foregoing, in no event shall Landlord be obligated either to repair or rebuild if the damage or destruction results from an uninsured casualty or if the costs of such repairing or rebuilding exceeds the amount of the insurance proceeds (net of all costs and expenses incurred in obtaining same) received by Landlord on account thereof. Landlord shall not be liable for any inconvenience or annoyance to Tenant or injury to the business of Tenant resulting from delays in repairing such damage.

(b) Landlord shall, within forty-five (45) days after the occurrence of a casualty, provide Tenant with a good faith estimate of the time required to repair the damage to the Premises or the Building, as provided herein ("Estimate"); if such estimate is for a period of more than two hundred seventy (270) days from the occurrence of the casualty (or during the last eighteen (18) months of the term, for a period of more than ninety (90) days), the Premises shall be deemed "substantially damaged". If the Premises or the Building are substantially damaged, Landlord may elect to terminate this Lease by giving Tenant written notice of such termination within sixty (60) days of the date of such casualty; and if the Premises or the Building are substantially damaged, and untenable or inaccessible for the uses permitted under this Lease, then Tenant may terminate this Lease by giving Landlord written notice of such termination within thirty (30) days following Tenant's receipt of the Estimate; provided that the parties shall cooperate in good faith to respond to inquiries regarding timing, etc.

(c) For so long as such damage results in material interference with the operation of Tenant's use of the Premises which material interference causes Tenant to be unable to use or access the Premises or any material portion thereof for the operation of its business, the Yearly Rent payable by Tenant shall abate or be reduced proportionately for the period, commencing on the day following such material interference and continuing until the Premises has been substantially restored by Landlord, as provided above.

(d) If the Premises are damaged by a casualty, and the Lease is not terminated as provided herein, the Tenant, at its own expense, and proceeding with all reasonable dispatch, shall repair and reconstruct all of the Alterations made to the Premises by Tenant, including and any trade fixtures, equipment or personal property of Tenant which shall have been damaged or destroyed, but excluding those portions of Landlord's Work constituting leasehold improvements (as opposed to Tenant's furniture, trade fixtures, equipment, personal property, data or communications cabling, specialty or laboratory equipment).

19. WAIVER OF SUBROGATION

In any case in which Tenant shall be obligated to pay to Landlord any loss, cost, damage, liability, or expense suffered or incurred by Landlord, Landlord shall allow to Tenant as an offset against the amount thereof (i) the net proceeds of any insurance collected by Landlord for or on account of such loss, cost, damage, liability or expense, provided that the allowance of such offset does not invalidate or prejudice the policy or policies under which such proceeds were payable, and (ii) if such loss, cost, damage, liability or expense shall have been caused by a peril against which Landlord has agreed to procure insurance coverage under the terms of this Lease, the amount of such insurance coverage, whether or not actually procured by Landlord.

In any case in which Landlord or Landlord's managing agent shall be obligated to pay to Tenant any loss, cost, damage, liability or expense suffered or incurred by Tenant, Tenant shall allow to Landlord or Landlord's managing agent, as the case may be, as an offset against the amount thereof (i) the net proceeds of any insurance collected by Tenant for or on account of such loss, cost, damage, liability, or expense, provided that the allowance of such offset does not invalidate the policy or policies under which such proceeds were payable and (ii) the amount of any loss, cost, damage, liability or expense caused by a peril covered by (or required to be covered by) fire insurance with the broadest form of property insurance generally available on property in buildings of the type of the Building, whether or not actually procured by Tenant.

The parties hereto shall each procure an appropriate clause in, or endorsement on, any property insurance policy covering the Premises and the Building and personal property, fixtures and equipment located thereon and therein required to be carried under this Lease, pursuant to which the insurance companies waive subrogation or consent to a waiver of right of recovery in favor of either party, its respective agents or employees. Each party hereby agrees that it will not make any claim against or seek to recover from the other or its agents or employees for any loss or damage to its property or the property of others resulting from fire or other perils covered by such property insurance (or that would have been covered by such insurance had it been so carried).

20. CONDEMNATION-EMINENT DOMAIN

(a) In the event of any condemnation or taking in any manner for public or quasi-public use, which shall be deemed to include a voluntary conveyance in lieu of a taking (a "taking") of the whole of the Building and Land, this Lease shall forthwith terminate as of the date when Tenant is required to vacate the Premises, and in such event, Yearly Rent and Additional Rent shall be apportioned as of the date of termination. Landlord shall promptly notify Tenant of any written notice received by Landlord from any governmental authority with respect to any taking (including said voluntary conveyance) of the Building or Land.

(b) Unless this Lease is terminated as provided herein, the Landlord, at its own expense, and proceeding with due diligence and all reasonable dispatch, but subject to delays due to Force Majeure, shall restore the remaining portion of the Premises (including those portions of Landlord's Work constituting leasehold improvements but not any Alterations made by or for Tenant, or any trade fixtures, equipment or personal property owned by Tenant) and the necessary portions of the Building as nearly as practicable to the same condition as it was prior to such taking, subject to zoning and building laws then in effect. Notwithstanding the foregoing, Landlord's obligation to restore the remaining portion of the Premises shall be limited to the extent of the condemnation proceeds (net of all costs and expenses incurred in connection with same) received by Landlord on account thereof. Landlord shall not be liable for any inconvenience or annoyance to Tenant or injury to the business of Tenant resulting from delays in restoring the Premises.

(c) In the event that only a part of the Premises or the Building shall be taken, then, if such taking is a substantial taking (as hereinafter defined), either Landlord or Tenant may by delivery of notice in writing to the other within sixty (60) days following the date on which Landlord's title has been divested by such authority, terminate this Lease, effective as of the date when Tenant is required to vacate any portion of the Premises or appurtenant rights so taken, or an earlier date if specified in such notice. A "substantial taking" shall mean a taking which: requires restoration and repair of the remaining portion of the Building that cannot in the ordinary course be reasonably expected to be repaired within one hundred eighty (180) days; results in the loss of reasonable access to the Premises; results in the loss of more than twenty-five percent (25%) of the Total Rentable Area of the Premises or more than ten percent (10%) of the portion of the Premises used for laboratory uses; or results in the loss of more than ten (10%) percent of the number of parking spaces currently serving the Building or Complex and Landlord reasonably determines it is not practical to relocate such parking within the remaining Complex or on other property within one-half of a mile of the Property.

(d) If this Lease is not terminated as aforesaid, then this Lease shall continue in full force and effect, provided if as a result of which there is material interference with the operation of Tenant's use of, or a reduction to, the Premises, then the Yearly Rent and Additional Rent payable by Tenant shall be justly and equitably abated and reduced according to the nature and extent of the loss of use thereof suffered by Tenant.

(e) Landlord shall have and hereby reserves and excepts, and Tenant hereby grants and assigns to Landlord, all rights to recover for damages to the Building, Land and Complex, and the leasehold interest hereby created (including any award made for the value of the estate vested by this Lease in Tenant), and to compensation accrued or hereafter to accrue by reason of such taking, and by way of confirming the foregoing, Tenant hereby grants and assigns, and covenants with Landlord to grant and assign, to Landlord all rights to

such damages of compensation, exclusive of any portion of such award designated for Tenant's moving expenses or allocable to its personal property and equipment or allocable to any Alterations (but excluding the Landlord's Work). Nothing contained herein shall be construed to prevent Tenant from prosecuting in any condemnation proceedings a separate claim for the value of any of Tenant's personal property and for relocation expenses and business losses, provided that such action shall not affect the amount of compensation otherwise recoverable by Landlord from the taking authority.

21. DEFAULT

21.1 Conditions of Limitation-Re-Entry-Termination. This Lease and the herein Term and estate are, upon the condition that if (a) subject to Article 21.7, Tenant shall neglect or fail to perform or observe any of the Tenant's covenants or agreements herein, including (without limitation) the covenants or agreements with regard to the payment when due of rent, additional charges, reimbursement for increase in Landlord's costs, or any other charge payable by Tenant to Landlord (all of which shall be considered as part of Yearly Rent for the purposes of invoking Landlord's statutory or other rights and remedies in respect of payment defaults); or (b) [intentionally omitted]; or (c) [intentionally omitted]; or (d) Tenant shall make an assignment or trust mortgage, or other conveyance or transfer of like nature, of all or a substantial part of its property for the benefit of its creditors, or (e) an attachment on mesne process, on execution or otherwise, or other legal process shall issue against Tenant or its property and a sale of any of its assets shall be held thereunder; or (f) any judgment, final beyond appeal or any lien, attachment or the like shall be entered, recorded or filed against Tenant in any court, registry, etc. and Tenant shall fail to pay such judgment within sixty (60) days after the judgment shall have become final beyond appeal or to discharge or secure by surety bond such lien, attachment, etc. within sixty (60) days of such entry, recording or filing, as the case may be; or (g) the leasehold hereby created shall be taken on execution or by other process of law and shall not be revested in Tenant within sixty (60) days thereafter; or (h) a receiver, sequesterer, trustee or similar officer shall be appointed by a court of competent jurisdiction to take charge of all or any part of Tenant's property and such appointment shall not be vacated within thirty (30) days; or (i) any proceeding shall be instituted by or against Tenant pursuant to any of the provisions of any Act of Congress or State law relating to bankruptcy, reorganizations, arrangements, compositions or other relief from creditors, and, in the case of any proceeding instituted against it, if Tenant shall fail to have such proceedings dismissed within sixty (60) days or if Tenant is adjudged bankrupt or insolvent as a result of any such proceeding, or (j) any event shall occur or any contingency shall arise whereby this Lease, or the Term and estate thereby created, would (by operation of law or otherwise) devolve upon or pass to any person, firm or corporation other than Tenant, except as expressly permitted under Article 16 hereof—then, and in any such event Landlord may, by written notice to Tenant, elect to terminate this Lease; and thereupon (and without prejudice to any remedies which might otherwise be available for arrears of rent or other charges due hereunder or preceding breach of covenant or agreement and without prejudice to Tenant's liability for damages as hereinafter stated), upon the giving of such notice, this Lease shall terminate as of the date specified therein as though that were the Termination Date as stated in Section 3.2. Without being taken or deemed to be guilty of any manner of trespass or conversion, and without being liable to indictment, prosecution or damages therefor, Landlord may enter into and upon the Premises (or any part thereof in the name of the whole); repossess the same as of its former estate; and expel Tenant and those claiming under Tenant. The words "re-entry" and "re-enter" as used in this Lease are not restricted to their technical legal meanings.

21.2 Intentionally Omitted.

21.3 Damages-Termination. Upon the termination of this Lease under the provisions of this Article 21, Tenant shall pay to Landlord the rent and other charges due and payable by Tenant to Landlord up to the time of such termination, shall continue to be liable for any preceding breach of covenant, and in addition, shall pay to Landlord as damages, at the election of Landlord

either:

(x) the amount by which, at the time of the termination of this Lease (or at any time thereafter if Landlord shall have initially elected damages under subparagraph (y), below), (i) the aggregate of the rent and other charges projected over the period commencing with such termination and ending on the Termination Date as stated in Exhibit 1 discounted to present value at the Reference Rate exceeds (ii) the aggregate projected fair market rental value of the Premises for such period similarly discounted. As used herein, the term "Reference Rate" shall mean the annual rate of five percentage (5%) points over the so-called prime rate then currently from time to time charged to its most favored corporate customers by the largest national bank (N.A.) located in the city in which the Building is located.

or:

(y) amounts equal to the rent and other charges which would have been payable by Tenant had this Lease not been so terminated, payable upon the due dates therefor specified herein following such termination and until the Termination Date as specified in Exhibit 1, provided, however, if Landlord shall re-let the Premises during such period, that Landlord shall credit Tenant with the net rents received by Landlord from such re-letting, such net rents to be determined by first deducting from the gross rents as and when received by Landlord from such re-letting the expenses incurred or paid by Landlord in terminating this Lease, as well as the expenses of re-letting, including altering and preparing the Premises for new tenants, brokers' commissions, and all other similar expenses properly chargeable against the Premises and the rental therefrom, it being understood that any such re-letting may be for a period equal to or shorter or longer than the remaining Term of this Lease; and provided, further, that (i) in no event shall Tenant be entitled to receive any excess of such net rents over the sums payable by Tenant to Landlord hereunder and (ii) in no event shall Tenant be entitled in any suit for the collection of damages pursuant to this Subparagraph (y) to a credit in respect of any net rents from a re-letting except to the extent that such net rents are actually received by Landlord prior to the commencement of such suit. If the Premises or any part thereof should be re-let in combination with other space, then proper apportionment on a square foot area basis shall be made of the rent received from such re-letting and of the expenses of re-letting.

In calculating the rent and other charges under Subparagraph (x), above, there shall be included, in addition to the Yearly Rent, Tax Share and Operating Expense Share and all other considerations agreed to be paid or performed by Tenant, on the assumption that all such amounts and considerations would have remained constant (except as herein otherwise provided) for the balance of the full Term hereby granted.

Suit or suits for the recovery of such damages, or any installments thereof, may be brought by Landlord from time to time at its election, and nothing contained herein shall be deemed to require Landlord to postpone suit until the date when the Term of this Lease would have expired if it had not been terminated hereunder.

Nothing herein contained shall be construed as limiting or precluding the recovery by Landlord against Tenant of any sums or damages to which, in addition to the damages particularly provided above, Landlord may lawfully be entitled by reason of any default hereunder on the part of Tenant. Notwithstanding anything to the contrary, Landlord shall be entitled to recover, in addition to the rent and other charges under Subparagraph (x) or (y) above, any other amount necessary to compensate Landlord for all detriment proximately caused by Tenant's failure to perform its obligations under the Lease or which in the ordinary course of things would be likely to result therefrom, including, but not limited to, the cost of recovering possession of the Premises, reasonable attorneys' fees, any real estate commissions actually paid by Landlord and the unamortized value of any free rent, reduced rent, tenant improvement allowance or other economic concessions provided by Landlord.

21.4 Fees and Expenses.

(a) If Landlord at any time is compelled to pay or elects to pay any sum of money, or do any act which will require the payment of any sum of money, by reason of the failure of Tenant to comply with any provision hereof and in accordance with this Section 21.4, or if Landlord is compelled to or does incur any expense, including reasonable attorneys' fees, in instituting, prosecuting, and/or defending any action or proceeding instituted by reason of any default of Tenant hereunder, Tenant shall pay to Landlord by way of reimbursement the actual and reasonable sum or sums so paid by Landlord with all costs and damages, plus interest computed as provided in Article 6 hereof, within thirty (30) days after Tenant's receipt of an invoice therefor.

(b) Tenant shall pay Landlord's cost and expense, including reasonable attorneys' fees, incurred (i) in enforcing any obligation of Tenant under this Lease or (ii) as a result of Landlord, without its fault, being made party to any litigation pending by or against Tenant or any persons claiming through or under Tenant.

21.5 Waiver of Redemption. Tenant does hereby waive and surrender all rights and privileges which it might have under or by reason of any present or future law to redeem the Premises or to have a continuance of this Lease for the Term hereby demised after being dispossessed or ejected therefrom by process of law or under the terms of this Lease or after the termination of this Lease as herein provided.

21.6 Landlord's Remedies Not Exclusive. The specified remedies to which Landlord may resort hereunder are cumulative and are not intended to be exclusive of any remedies or means of redress to which Landlord may at any time be lawfully entitled, and Landlord may invoke any remedy (including the remedy of specific performance) allowed at law or in equity as if specific remedies were not herein provided for.

21.7 Grace Period. Notwithstanding anything to the contrary in this Lease contained (except and unless such longer notice and cure periods are explicitly provided in this Lease), Landlord agrees not to take any action to terminate this Lease (a) for default by Tenant in the payment when due of any sum of money, if Tenant shall cure such default within five (5) business days after written notice thereof is given by Landlord to Tenant (the "Monetary Grace Period"), provided, however, that no such notice need be given and no such default in the payment of money shall be curable if on two (2) prior occasions within any twelve (12) month period there had been a default in the payment of money which had been cured after notice thereof had been given by Landlord to Tenant as herein provided or (b) for default by Tenant in the performance of any covenant other than a covenant to pay a sum of money, if Tenant shall commence to cure such default within a period of thirty (30) days after written notice thereof given by Landlord to Tenant and diligently prosecute the same to completion (the "Non-Monetary Grace Period"; the Monetary Grace Period and the Non-Monetary Grace Period may be referred to as a "Grace Period") and provided no Grace Period whatsoever shall be allowed to Tenant if the default is incurable. Notwithstanding the foregoing, Tenant shall have no right to notice or the Non-Monetary Grace Period relating to its failure to (v) maintain all insurance as required in Article 15 above; (w) deliver to Landlord the Letter of Credit as required by Section 29.13 below; (x) provide Landlord with Estoppel Certificates as required pursuant to Section 17.5 above; (y) provide Landlord with subordination agreements as required pursuant to Article 23 below; or (z) provide Landlord with the certificates of insurance required pursuant to Article 15 above.

Notwithstanding anything to the contrary in this Article 21.7 contained, except to the extent prohibited by applicable law, any statutory notice and grace periods provided to Tenant by law are hereby expressly waived by Tenant.

21.8 Additional Remedies. In addition to the other rights and remedies provided for in this Lease, if Tenant defaults in the performance of any obligation imposed on it by this Lease, and shall not cure such default within the period specified hereunder, including and applicable notice or Grace Period (as same may be extended as provided herein), then Landlord at any time thereafter may cure such default for the account of Tenant. Any amount paid by Landlord in the exercise of its rights under this Subsection shall be reimbursed by Tenant (with interest thereon at the Interest Rate from and after the due date) within thirty (30) days of invoice therefor, absent good faith dispute, failing which such amount may be offset against payments due from Landlord to Tenant until Landlord has been fully reimbursed. Notwithstanding the foregoing, Landlord may cure a default of Tenant prior to the expiration of the applicable Grace Period but after a cure period as is reasonable under the circumstances (but in no event shall such cure period exceed two (2) consecutive days) and after such notice (which may be verbal) to Tenant under any of the following circumstances: (w) if necessary to protect the interest of Landlord in the Premises or Building; (x) if necessary to prevent civil or criminal liability of Landlord; (y) if necessary to prevent an imminent and material interruption of the conduct of business in the Building, or (z) if necessary to prevent injury to persons or damage to property.

21.9 Additional Rent

All fees, costs and expenses, other than Yearly Rent, which Tenant assumes or agrees to pay and any other sum payable by Tenant pursuant to this Lease, including, without limitation, Tenant's Tax Share and Tenant's Operating Expenses Share (both as hereinafter defined), shall be deemed "Additional Rent."

22. END OF TERM-ABANDONED PROPERTY

Upon the expiration or other termination of the Term of this Lease, Tenant shall peaceably quit and surrender to Landlord the Premises, broom clean, in good order, repair and condition (except as provided herein and in Articles 8.7, 18 and 20) excepting only ordinary wear and use (as defined in Article 14.1 hereof) and damage by fire or other casualty for which, under other provisions of this Lease, Tenant has no responsibility of repair or restoration, and free of all Hazardous Materials brought upon, kept, used, stored, handled, treated, generated in, or released or disposed of from, the Premises by Tenant or any party taking by or through Tenant, including any assignee, subtenant, licensee, etc. and decommissioned as required pursuant to Section 29.11 below. Tenant shall remove all of Tenant's Removable Property and its other personal property, including, without limitation, all telecommunication, computer and other cabling installed by or on behalf of Tenant in the Premises or elsewhere in the Building (excluding any cabling installed by Landlord as part of Landlord's Work), and, to the extent specified by Landlord in accordance with this Lease, any items of the Tenant Improvement Work Landlord has required to be removed in accordance with Section 4.2(m), all Alterations made by Tenant (unless Landlord has not required removal of the same in accordance with this Lease) and all partitions made by Tenant wholly within the Premises, and shall repair any damages to the Premises or the Building caused by their installation or by such removal to substantially the same condition as prior to their installation. Tenant's obligation to observe or perform this covenant shall survive the expiration or other termination of the Term of this Lease. At least three (3) months prior to the surrender of the Premises, Tenant shall deliver to Landlord a narrative description of the actions proposed (or required by any governmental authority) to be taken by Tenant in order to surrender the Premises (including any Alterations permitted by Landlord to remain in the Premises) at the expiration or earlier termination of the Term, in the condition required by this Article 22 including the presence of Hazardous Materials used, stored, generated or disposed of therein (the "Surrender Plan"). Such Surrender Plan shall be accompanied by a current listing of (a) all Hazardous Materials licenses and permits held by or on behalf of any Tenant with respect to the Premises, and (b) all Hazardous Materials used, stored, handled, treated, generated, released or disposed of from the Premises, and shall be subject to the review and approval of Landlord's environmental consultant.

Tenant will remove any personal property from the Building and the Premises upon or prior to the expiration or termination of this Lease and any such property which shall remain in the Building or the Premises thereafter shall be conclusively deemed to have been abandoned, and may either be retained by Landlord as its property or sold or otherwise disposed of in such manner as Landlord may see fit. If any part thereof shall be sold, Landlord may receive and retain the proceeds of such sale and apply the same, at its option, against the reasonable expenses of the sale, the actual and reasonable out-of-pocket cost of moving and storage, any arrears of Yearly Rent, additional or other charges payable hereunder by Tenant to Landlord and any damages to which Landlord may be entitled under Article 21 hereof or pursuant to law.

If Tenant or anyone claiming under Tenant shall remain in possession of the Premises or any part thereof after the expiration or prior termination of the Term of this Lease without any agreement in writing between Landlord and Tenant with respect thereto, then, prior to the acceptance of any payments for rent or use and occupancy by Landlord, the person remaining in possession shall be deemed a tenant-at-sufferance. Whereas the parties hereby acknowledge that Landlord may need the Premises after the expiration or prior termination of the Term of the Lease for other tenants and that the damages which Landlord may suffer as the result of Tenant's holding-over cannot be determined as of the Execution Date hereof, in the event that Tenant so holds over, Tenant shall pay to Landlord in addition to all rental and other charges due and accrued under the Lease prior to the date of termination, charges (based upon fair market rental value of the Premises) for use and occupation of the Premises thereafter and, in addition to such sums and any and all other rights and remedies which Landlord may have at law or in equity, an additional use and occupancy charge in the amount of one hundred fifty percent (150%) of the Yearly Rent and other charges calculated

(on a daily basis) at the highest rate payable under the terms of this Lease, but measured from the day on which Tenant's hold-over commenced and terminating on the day on which Tenant vacates the Premises. In addition, Tenant shall save Landlord, its agents and employees, harmless and will exonerate, defend and indemnify Landlord, its agents and employees, from and against any and all damages which Landlord may suffer on account of Tenant's hold-over in the Premises after the expiration or prior termination of the Term of the Lease; provided, however, in no event shall Tenant be liable for consequential damages as a result of such holdover unless and until Tenant continues to holdover in all or any portion of the Premises from and after the date that is thirty (30) days following the expiration or early termination of this Lease or unless Landlord notifies Tenant prior to such expiration or termination that Landlord has procured a tenant that is ready, willing and able to sign a lease for the Premises (or portion thereof), in either which event the foregoing prohibition shall be of no force or effect Landlord, Tenant shall be liable to Landlord for any and all damages suffered by Landlord as a result of such holdover, including any lost rent or consequential, special and indirect damages (in each case, regardless of whether such damages are foreseeable).

23. SUBORDINATION

23.1 This Lease, and all rights of Tenant hereunder, are subject and subordinate in all respects to that certain Ground Lease dated November 21, 2017 between Economic Development and Industrial Corporation of Boston ("EDIC"), as landlord, and Landlord, as tenant, the ("EDIC Lease") as the same may be amended. Subject to the terms and conditions hereof including Tenant's receipt of a commercially reasonable Non-Disturbance Agreement as provided below, and subject to any mortgagee's or ground lessor's election as hereinafter provided for, this Lease, and all rights of Tenant hereunder, are subject and subordinate in all respects to all matters of record (including, without limitation, deeds and land disposition agreements); other ground leases and/or underlying leases, as same may be amended; and all mortgages, any of which may now or hereafter be placed on or affect such leases and/or the real property of which the Premises are a part, or any part of such real property, and/or Landlord's interest or estate therein, and to each advance made and/or hereafter to be made under any such mortgages, and to all renewals, modifications, consolidations, replacements and extensions thereof and all substitutions therefor. This Article 23 shall be self-operative and no further instrument or subordination shall be required, subject to the terms and conditions hereof including Tenant's receipt of a commercially reasonable Non-Disturbance Agreement from all current and future mortgagees as provided below, and subject to any mortgagee's or ground lessor's election as herein provided. In confirmation of such subordination, Tenant shall execute, acknowledge and deliver promptly any certificate or instrument that Landlord and/or any current or future mortgagee and/or lessor under any ground or underlying lease and/or their respective successors in interest may request, subject to Landlord's, mortgagee's and ground lessor's right to do so for, on behalf and in the name of Tenant under certain circumstances, as hereinafter provided. Tenant acknowledges that, where applicable, any consent or approval hereafter given by Landlord may be subject to the further consent or approval of such mortgagee and/or ground lessor as and to the extent required under the applicable documents, instruments and agreements therewith; and the failure or refusal of such mortgagee and/or ground lessor to give such consent or approval shall, notwithstanding anything to the contrary in this Lease contained, constitute reasonable justification for Landlord's withholding its consent or approval.

23.2 Any such mortgagee or ground lessor may from time to time subordinate or revoke any such subordination of the mortgage or ground lease held by it to this Lease. Such subordination or revocation, as the case may be, shall be effected by written notice to Tenant and by recording an instrument of subordination or of such revocation, as the case may be, with the appropriate registry of deeds or land records and to be effective without any further act or deed on the part of Tenant. In confirmation of such subordination or of such revocation, as the case may be, Tenant shall execute, acknowledge and promptly deliver any commercially reasonable certificate or instrument that Landlord, any mortgagee or ground lessor may request, subject to Landlord's, mortgagee's and ground lessor's right to do so for, on behalf and in the name of Tenant under certain circumstances, as hereinafter provided.

23.3 Without limitation of any of the provisions of this Lease, but subject to the terms and conditions of any SNDA executed by Tenant and any ground lessor or mortgagee, if any ground lessor or mortgagee shall succeed to the interest of Landlord by reason of the exercise of its rights under such ground lease or mortgage (or the acceptance of voluntary conveyance in lieu thereof) or any third party (including, without limitation, any foreclosure purchaser or mortgage receiver) shall succeed to such interest by reason of any such exercise or the expiration or sooner termination of such ground lease, however caused, then such successor may at its election, upon notice and request to Tenant (which, in the case of a ground lease, shall be within thirty (30) days after such expiration or sooner termination), succeed to the interest of Landlord under this Lease, provided, however, that such successor shall not: (i) be liable for

any previous act or omission of Landlord under this Lease unless it is of a continuing nature and an obligation of Landlord under this Lease; (ii) be subject to any offset, defense, or counterclaim which shall theretofore have accrued to Tenant against Landlord; (iii) have any obligation with respect to any security deposit or letter of credit unless it, or any portion thereof, shall have been paid over or physically delivered to such successor; or (iv) be bound by any previous modification of this Lease of which it did not receive notice, or by any previous payment of Yearly Rent for a period greater than one (1) month, made without such ground lessor's or mortgagee's consent where such consent is required by applicable ground lease or mortgage documents. In the event of such succession to the interest of the Landlord—and notwithstanding that any such mortgage or ground lease may antedate this Lease—the Tenant shall attorn to such successor and shall ipso facto be and become bound directly to such successor in interest to Landlord to perform and observe all the Tenant's obligations under this Lease without the necessity of the execution of any further instrument and such successor shall have the benefit of all of Landlord's rights and protections hereunder, including, without limitation, under Section 26(b). Nevertheless, Tenant agrees at any time and from time to time during the Term hereof to execute a commercially reasonable instrument in confirmation of Tenant's agreement to attorn, as aforesaid, subject to Landlord's, mortgagee's and ground lessor's right to do so for, on behalf and in the name of Tenant under certain circumstances, as hereinafter provided.

23.4 The term "mortgage(s)" as used in this Lease shall include any mortgage or deed of trust. The term "mortgagee(s)" as used in this Lease shall include any mortgagee or any trustee and beneficiary under a deed of trust or receiver appointed under a mortgage or deed of trust. The term "mortgagor(s)" as used in this Lease shall include any mortgagor or any grantor under a deed of trust.

23.5 Tenant shall not, by any act or omission, cause Landlord to be in violation of or in default under the EDIC Lease, or do or permit, any act that is in violation of the EDIC Lease with respect to the Premises. At Tenant's request, Landlord shall deliver to Tenant an agreement ("Non-Disturbance Agreement") with respect to the EDIC Lease substantially in the form attached hereto as Exhibit 8; provided, however, that if any Tenant requires a Non-Disturbance Agreement in a form substantially different from the form attached hereto as Exhibit 8 and EDIC agrees to negotiate such a different form with such Tenant, then Tenant shall reimburse Landlord and EDIC, as Additional Rent, for all reasonable, actual attorneys' fees and expenses incurred by Landlord and EDIC in connection with the preparation, review and negotiation of such a Non-Disturbance Agreement, regardless of whether or not such a Non-Disturbance Agreement is finalized, which payment shall be due and payable to EDIC within thirty (30) days after invoice therefor to Tenant.

23.6 Tenant hereby irrevocably constitutes and appoints Landlord or any such mortgagee or ground lessor, and their respective successors in interest, acting singly, Tenant's attorney-in-fact to execute and deliver any such certificate or instrument for, on behalf and in the name of Tenant, but only if Tenant fails to execute, acknowledge and deliver any such certificate or instrument within ten (10) business days after Landlord or such mortgagee or such ground lessor has made written request therefor; provided that such request, or any second request, if applicable, contains the following words in bold capital letters: **THIS IS A NOTICE UNDER ARTICLE 23 OF THE LEASE. IF TENANT FAILS TO DELIVER A NONDISTURBANCE AGREEMENT AS REQUIRED UNDER SUCH ARTICLE WITHIN TEN (10) BUSINESS DAYS AFTER TENANT'S RECEIPT OF THIS LETTER, THEN TENANT HEREBY IRREVOCABLY CONSTITUTES AND APPOINTS LANDLORD OR ANY SUCH MORTGAGEE OR GROUND LESSOR, AND THEIR RESPECTIVE SUCCESSORS IN INTEREST, ACTING SINGLY, TENANT'S ATTORNEY-IN-FACT TO EXECUTE AND DELIVER SUCH NONDISTURBANCE AGREEMENT, ON BEHALF AND IN THE NAME OF TENANT.**

23.7 Notwithstanding anything to the contrary contained in this Article 23, if all or part of Landlord's estate and interest in the real property of which the Premises are a part shall be a leasehold estate held under a ground lease, then: (i) the foregoing subordination provisions of this Article 23 shall not apply to any mortgages of the fee interest in said real property to which Landlord's leasehold estate is not otherwise subject and subordinate; and (ii) the provisions of this Article 23 shall in no way waive, abrogate or otherwise affect any agreement by any ground lessor (x) not to terminate this Lease incident to any termination of such ground lease prior to its term expiring or (y) not to name or join Tenant in any action or proceeding by such ground lessor to recover possession of such real property or for any other relief.

23.8 In the event of any failure by Landlord to perform, fulfill or observe any agreement by Landlord herein, in no event will the Landlord be deemed to be in default under this Lease permitting Tenant to exercise any or all rights or remedies under this Lease until the Tenant shall have given written notice of such failure to any mortgagee (ground lessor and/or trustee) of which Tenant shall have been advised and until a reasonable period of time shall have elapsed following the giving of such notice, during which such mortgagee (ground lessor and/or trustee) shall have the right, but shall not be obligated, to remedy such failure, except Tenant's failure to simultaneously deliver such notice shall not constitute a default under this Lease; provided, however, such mortgagee (ground lessor and/or trustee) commences curative action during such reasonable period and diligently prosecutes the same to completion.

24. QUIET ENJOYMENT

Landlord covenants that if, and so long as, Tenant keeps and performs each and every covenant, agreement, term, provision and condition herein contained on the part and on behalf of Tenant to be kept and performed, Tenant shall quietly enjoy the Premises from and against the claims of all persons claiming by, through or under Landlord subject, nevertheless, to the covenants, agreements, terms, provisions and conditions of this Lease and to the mortgages, ground leases and/or underlying leases to which this Lease is subject and subordinate, as hereinabove set forth and subject to the terms of the Non-Disturbance Agreement from EDIC and/or an SNDA from any mortgagee or other ground lessor, as hereinabove set forth.

25. ENTIRE AGREEMENT-WAIVER-SURRENDER

25.1 **Entire Agreement.** This Lease and the Exhibits made a part hereof contain the entire and only agreement between the parties and any and all statements and representations, written and oral, including previous correspondence and agreements between the parties hereto, are merged herein. Tenant acknowledges that all representations and statements upon which it relied in executing this Lease are contained herein and that the Tenant in no way relied upon any other statements or representations, written or oral. Any executory agreement hereafter made shall be ineffective to change, modify, discharge or effect an abandonment of this Lease in whole or in part unless such executory agreement is in writing and signed by the party against whom enforcement of the change, modification, discharge or abandonment is sought.

25.2 **Waiver by Landlord.** The failure of Landlord to seek redress for violation, or to insist upon the strict performance, of any covenant or condition of this Lease, or any of the Rules and Regulations promulgated hereunder, shall not prevent a subsequent act, which would have originally constituted a violation, from having all the force and effect of an original violation. The receipt by Landlord of rent with knowledge of the breach of any covenant of this Lease shall not be deemed a waiver of such breach. The failure of Landlord to enforce any of such Rules and Regulations against Tenant and/or any other tenant in the Building shall not be deemed a waiver of any such Rules and Regulations. No provisions of this Lease shall be deemed to have been waived by Landlord unless such waiver be in writing signed by Landlord. No payment by Tenant or receipt by Landlord of a lesser amount than the monthly rent herein stipulated shall be deemed to be other than on account of the stipulated rent, nor shall any endorsement or statement on any check or any letter accompanying any check or payment as rent be deemed an accord and satisfaction, and Landlord may accept such check or payment without prejudice to Landlord's right to recover the balance of such rent or pursue any other remedy in this Lease provided.

25.3 **Surrender.** No act or thing done by Landlord during the Term hereby demised shall be deemed an acceptance of a surrender of the Premises, and no agreement to accept such surrender shall be valid, unless in writing signed by Landlord. No employee of Landlord or of Landlord's agents shall have any power to accept the keys of the Premises prior to the termination of this Lease. The delivery of keys to any employee of Landlord or of Landlord's agents shall not operate as a termination of the Lease or a surrender of the Premises. In the event that Tenant at any time desires to have Landlord underlet the Premises for Tenant's account, Landlord or Landlord's agents are authorized to receive the keys for such purposes without releasing Tenant from any of the obligations under this Lease, and Tenant hereby relieves Landlord of any liability for loss of or damage to any of Tenant's effects in connection with such underletting.

26. INABILITY TO PERFORM-EXCULPATORY CLAUSE

26.1 Except as provided in Articles 4.1 and 4.2 hereof or as otherwise expressly otherwise provided in this Lease, this Lease and the obligations of Tenant to pay rent hereunder and perform all the other covenants, agreements, terms, provisions and conditions hereunder on the part of Tenant to be performed shall in no way be affected, impaired or excused because Landlord is unable to fulfill any of its obligations under this Lease or is unable to supply or is delayed in supplying any service expressly or impliedly to be supplied or is unable to make or is delayed in making any repairs, replacements, additions, alterations, improvements or decorations or is unable to supply or is delayed in supplying any equipment or fixtures if Landlord is prevented or delayed from so doing in each case by reason of event(s) of Force Majeure. In each such instance of inability of Landlord to perform, Landlord shall exercise reasonable diligence to promptly eliminate the cause of such inability to perform. As used in this Lease, an event or events of "Force Majeure" shall include strike or labor troubles, lockout, breakdown, accident, order, preemption or regulation of or by any governmental authority or failure to supply or inability by the exercise of reasonable diligence to obtain supplies, parts or employees necessary to furnish such services or because of war, civil commotion, or other emergency, or other extraordinary conditions of supply and demand, extraordinary weather conditions, so-called acts of God, or for any other cause beyond the party's reasonable control.

26.2 Tenant shall neither assert nor seek to enforce any claim against Landlord, or Landlord's agents or employees, or the assets of Landlord or of Landlord's agents or employees, for breach of this Lease or otherwise, other than against Landlord's interest in the Building of which the Premises are a part and in the uncollected rents, issues and profits thereof and insurance or casualty proceeds therefrom, and Tenant agrees to look solely to such interest for the satisfaction of any liability of Landlord under this Lease, it being specifically agreed that in no event shall Landlord or Landlord's agents or employees (or any of the officers, trustees, directors, partners, beneficiaries, joint venturers, members, stockholders or other principals or representatives, and the like, disclosed or undisclosed, thereof) ever be personally liable for any such liability. This paragraph shall not limit any right that Tenant might otherwise have to obtain injunctive relief against Landlord or to take any other action which shall not involve the personal liability of Landlord to respond in monetary damages from Landlord's assets other than the Landlord's interest in said real estate, as aforesaid. In no event shall Landlord or Landlord's agents or employees (or any of the officers, trustees, directors, partners, beneficiaries, joint venturers, members, stockholders or other principals or representatives and the like, disclosed or undisclosed, thereof) ever be liable for consequential or incidental damages. Without limiting the foregoing, in no event shall Landlord or Landlord's agents or employees (or any of the officers, trustees, directors, partners, beneficiaries, joint venturers, two managers, members, stockholders or other principals or representatives and the like, disclosed or undisclosed, thereof) ever be liable for lost profits of Tenant. Without limiting the foregoing, but except to the extent arising from a violation of Tenant's obligations set forth in Article 22 or Article 29.11 hereof, in no event shall Tenant or Tenant's agents or employees (or any of the officers, trustees, directors, partners, beneficiaries, joint venturers, two managers, members, stockholders or other principals or representatives and the like, disclosed or undisclosed, thereof) ever be liable for lost profits or consequential damages of Landlord, and further, in no event shall any of the officers, trustees, directors, partners, beneficiaries, joint venturers, members, stockholders or other principals, agents or representatives of Tenant, disclosed or undisclosed, ever be personally liable under this Lease.

26.3 Landlord shall not be deemed to be in default of its obligations under the Lease unless Tenant has given Landlord written notice of such default, and Landlord has failed to cure such default within thirty (30) days after Landlord receives such notice or such longer period of time as Landlord may reasonably require to cure such default, provided that Landlord commences curative action within such period and diligently prosecutes the same to completion. Except as otherwise expressly provided in this Lease, in no event shall Tenant have the right to terminate the Lease nor shall Tenant's obligation to pay Yearly Rent or other charges under this Lease abate based upon any default by Landlord of its obligations under the Lease.

27. BILLS AND NOTICES

Any notice, consent, request, bill, demand or statement hereunder by either party to the other party shall be in writing and, if received at Landlord's or Tenant's address, shall be deemed to have been duly given when either delivered or served personally or sent via overnight mail (via nationally recognized courier) or mailed by first-class mail postage paid certified or registered mail return receipt requested, addressed to Landlord at its address as stated in Exhibit 1 with a copy to Landlord, c/o Related Beal, 177 Milk Street, Boston, Massachusetts 02109 Attn: Innovation

Square General Manager and a copy of any such notices in the nature of a default, failure to perform or other legal notices to Sherin and Lodgen LLP, 101 Federal Street, Boston, Massachusetts 02110, ATTN: Robert M. Carney, and to Tenant at the Premises (or at Tenant's address as stated in Exhibit 1, if mailed prior to Tenant's occupancy of the Premises), and a copy of any such notices in the nature of a default, failure to perform or other legal notices to Anderson & Kreiger LLP, 50 Milk Street, 21st Floor, Boston, Massachusetts 02109 ATTN: David L. Wiener or if any address for notices shall have been duly changed as hereinafter provided, if mailed as aforesaid to the party at such changed address. Either party may at any time change the address or specify an additional address for such notices, consents, requests, bills, demands or statements by delivering or mailing, as aforesaid, to the other party a notice stating the change and setting forth the changed or additional address, provided such changed or additional address is within the United States.

All bills and written statements for reimbursement or other payments or charges due from Tenant to Landlord hereunder shall be due and payable in full thirty (30) days, unless herein otherwise provided, after submission thereof by Landlord to Tenant. Tenant's failure to make timely payment of any amounts indicated by such bills and statements, whether for work done by Landlord at Tenant's written request, reimbursement provided for by this Lease or for any other sums properly owing by Tenant to Landlord provided for by this Lease, shall be treated as a default in the payment of rent and subject to such applicable Grace Periods, in which event Landlord shall have all rights and remedies provided in this Lease for the nonpayment of rent.

28. PARTIES BOUND-SEIZING OF TITLE

The covenants, agreements, terms, provisions and conditions of this Lease shall bind and benefit the successors and assigns of the parties hereto with the same effect as if mentioned in each instance where a party hereto is named or referred to, except that no violation of the provisions of Article 16 hereof shall operate to vest any rights in any successor or assignee of Tenant and that the provisions of this Article 28 shall not be construed as modifying the conditions of limitation contained in Article 21 hereof.

If, in connection with or as a consequence of the sale, transfer or other disposition of the real estate (land and/or Building, either or both, as the case may be) of which the Premises are a part, Landlord ceases to be the owner of the reversionary interest in the Premises, Landlord shall be entirely freed and relieved from the performance and observance thereafter of all covenants and obligations hereunder on the part of Landlord to be performed and observed, it being understood and agreed in such event (and it shall be deemed and construed as a covenant running with the land) that the person succeeding to Landlord's ownership of said reversionary interest shall thereupon and thereafter assume, and perform and observe, any and all of such covenants and obligations of Landlord.

29. MISCELLANEOUS

29.1 Separability. If any provision of this Lease or portion of such provision or the application thereof to any person or circumstance is for any reason held invalid or unenforceable, the remainder of the Lease (or the remainder of such provision) and the application thereof to other persons or circumstances shall not be affected thereby. Time is of the essence of this Lease.

29.2 Captions, etc. The captions are inserted only as a matter of convenience and for reference, and in no way define, limit or describe the scope of this Lease nor the intent of any provisions thereof. References to "State" shall mean, where appropriate, the Commonwealth of Massachusetts.

29.3 Broker. Landlord and Tenant represent and warrant that neither has directly or indirectly dealt, with respect to the leasing of the Premises, with any broker nor has Tenant had its attention called to the Premises or other space to let in the Building, etc., by anyone other than the broker, person or firm, if any, designated in Exhibit 1. Landlord and Tenant

agree to defend, exonerate and save harmless and indemnify the other and anyone claiming by, through or under such party against any claims for a commission arising out of the execution and delivery of this Lease or out of negotiations between Landlord and Tenant with respect to the leasing of other space in the Building, etc. Landlord shall be solely responsible for the payment of brokerage commissions to the broker, person or firm, if any, designated in Exhibit 1 pursuant to a separate agreement.

29.4 Modifications. If in connection with obtaining financing for the Building, a bank, insurance company, pension trust or other institutional lender shall request commercially reasonable modifications in this Lease as a condition to such financing, Tenant will not unreasonably withhold, delay or condition its consent thereto, provided that such modifications do not increase the obligations of Tenant hereunder, diminish the rights of Tenant hereunder, or reduce the obligations of Landlord hereunder, or in any adversely affect the leasehold interest hereby created.

29.5 Non-Discrimination and Equal Opportunity. To comply with the Non-Discrimination and Equal Opportunity Covenants set forth in Section 16.1 of the EDIC Lease and Exhibit O of the EDIC Lease, which are restated in full in Exhibit 7 attached hereto, wherein the term "Tenant" shall mean Tenant hereunder and "Landlord" shall mean the Landlord under the EDIC Lease. Landlord shall include or otherwise incorporate (e.g., by reference) the foregoing Non-Discrimination and Equal Opportunity Covenants in all future applicable Building tenant leases so long as such covenants are required of Landlord under the EDIC Lease or otherwise.

29.6 Governing Law. This Lease is made pursuant to, and shall be governed by, and construed in accordance with, the laws of the State wherein the Building is situated and any applicable local municipal rules, regulations, by-laws, ordinances and the like.

29.7 Assignment of Rents. With reference to any assignment by Landlord of its interest in this Lease, or the rents payable hereunder, conditional in nature or otherwise, which assignment is made to or held by a bank, trust company, insurance company or other institutional lender holding a mortgage or ground lease on the Building, Tenant agrees:

(a) that the execution thereof by Landlord and the acceptance thereof by such mortgagee and/or ground lessor shall never be deemed an assumption by such mortgagee and/or ground lessor of any of the obligations of the Landlord hereunder, unless such mortgagee and/or ground lessor shall, by written notice sent to the Tenant, specifically otherwise elect; and

(b) that, except as aforesaid, such mortgagee and/or ground lessor shall be treated as having assumed the Landlord's obligations hereunder only upon foreclosure of such mortgagee's mortgage or deed of trust or termination of such ground lessor's ground lease and the taking of possession of the Premises after having given notice of its exercise of the option stated in Article 23 hereof to succeed to the interest of the Landlord under this Lease.

29.8 Representation of Authority. Each of Landlord and Tenant warrants and represents to the other that the person executing this Lease on its behalf is duly authorized to do so. If Tenant is a corporation, Tenant hereby appoints the signatory whose name appears below on behalf of Tenant as Tenant's attorney-in-fact for the purpose of executing this Lease for and on behalf of Tenant.

29.9 Expenses Incurred by Landlord Upon Tenant Requests. Subject to the terms and provisions of this Lease governing the same, Tenant shall, upon demand, reimburse Landlord for all reasonable out-of-pocket expenses, including, without limitation, legal fees, incurred by Landlord in connection with all requests by Tenant for consents, approvals or execution of collateral documentation related to this Lease, including, without limitation, costs incurred by Landlord in the review and approval of Tenant's plans and specifications in connection with proposed Alterations to be made by Tenant to the Premises, requests by Tenant to sublet the Premises or assign its interest in the Lease, the execution by Landlord of estoppel certificates requested by Tenant, and requests by Tenant for Landlord to execute waivers of Landlord's interest in Tenant's property in connection with third party financing by Tenant. Such costs shall be deemed to be Additional Rent under the Lease.

29.10 Survival. Without limiting any other obligation of the Tenant which may survive the expiration or prior termination of the Term of the Lease, all obligations on the part of Tenant to indemnify, defend, or hold Landlord harmless, as set forth in this Lease (including, without limitation, Tenant's obligations under Articles 13(d), 15.3, and 29.3) shall survive the expiration or prior termination of the Term of the Lease.

29.11 Hazardous Materials. Landlord and Tenant agree as follows with respect to the existence or use of "Hazardous Material" in or on the Premises, Building, Land and Complex.

(a) Tenant, at its sole cost and expense, shall comply with all laws, statutes, ordinances, rules and regulations of any local, state or federal governmental authority having jurisdiction concerning environmental, health and safety matters (collectively, "Environmental Laws"), including, but not limited to, any discharge into the air, surface, water, sewers, soil or groundwater of any Hazardous Material (as defined below), whether within or outside the Premises within the Building, Land and Complex. Tenant shall comply with all terms, conditions and guidelines contained in Tenant's MWRA permit and agrees to acknowledge such agreement to so comply in writing within ten (10) business days of written request of Landlord and shall provide Landlord (and any applicable governmental authority) with a detailed description and guidelines of laboratory operating conditions pursuant to the MWRA permit. Notwithstanding the foregoing, nothing contained in this Lease requires, or shall be construed to require, Tenant to incur any liability related to or arising from environmental conditions (i) for which the Landlord is responsible pursuant to the terms of this Lease, or (ii) which existed within the Premises or the Building, Land and Complex prior to the date Tenant takes possession of, or enters, the Premises, provided, however, that if any such environmental condition was exacerbated by Tenant (or Tenant's contractors, subcontractors, agents, subtenants, assigns, etc.), the cost (and any delays resulting therefrom) of the liability therefor and any such removal or remediation shall be equitably borne by Landlord and Tenant based upon the degree to which Tenant's (or such other Tenant parties') actions have increased the cost of such removal or remediation. Tenant shall comply with all applicable Legal Requirements (including applicable zoning and building code requirements and Landlord's reasonable quantity limitations to provide for multiple tenant use and compliance applicable to the Building area and/or the so-called "control area" therein, so long as such Landlord-imposed quantity limitations do not decrease the areas Tenant is entitled to under Section 2.2 in any material respect) pertaining to the transportation, storage, use or disposal of such Hazardous Materials. Tenant shall be required to adhere to and comply with all commercially reasonable and uniformly imposed rules, regulations, restrictions and the like regarding the use and storage and quantities, including those as to allowable types, of Hazardous Materials and those that are allocated to Tenant by Landlord's pursuant to the Chemical Central Area and Storage Quantities matrix, as updated from time to time, the current version of which is attached hereto as Exhibit 12. Subject to Tenant's compliance obligations set forth herein including quantity and storage allocation requirements, Landlord consents to Tenant's use of the Permitted Materials listed in Exhibit 13, which may be updated from time to time by Tenant with Landlord's prior written consent, not to be unreasonably withheld, conditioned or delayed.

(b) Other than the Permitted Materials, Tenant shall not cause or permit any Hazardous Material to be brought upon, kept or used in or about the Premises or otherwise in, on or at the Building, Land and Complex by Tenant, its agents, employees, contractors or invitees, without the prior written consent of Landlord, except for Hazardous Materials which are typically used in the operation of offices or laboratories, provided that such materials are stored, used and disposed of in strict compliance with all applicable Environmental Laws and with good scientific and medical practice. Within ten (10) business days of Landlord's request, Tenant shall provide Landlord

with a list of all Hazardous Materials, including quantities used and such other information as Landlord may reasonably request, used by Tenant in the Premises or otherwise in, at or under the Building, Land and Complex. Notwithstanding the foregoing, with respect to any of Tenant's Hazardous Materials which Tenant does not properly handle, store or dispose of in compliance with all applicable Environmental Laws and good scientific and medical practice, Tenant shall, upon five (5) business days' prior written notice (or sooner if required by applicable Legal Requirements) from Landlord, no longer have the right to bring such material into the Premises, Building of which the Premises is a part or the Land or Complex until Tenant has demonstrated, to Landlord's reasonable satisfaction, that Tenant has implemented programs to thereafter properly handle, store or dispose of such material.

(c) As used herein, the term "Hazardous Material" means any hazardous or toxic substances, hazardous waste, environmental, biological, chemical, radioactive substances, oil, petroleum products and any waste or substance, which because of its quantitative concentration, chemical, biological, radioactive, flammable, explosive, infectious or other characteristics, constitutes or may reasonably be expected to constitute or contribute to a danger or hazard to public health, safety or welfare or to the environment, or that would trigger any employee or community "right-to-know" requirements adopted by any federal, state or local governing or regulatory body or which is or otherwise becomes regulated by any Environmental Law, including but not limited to the Massachusetts "Right to Know" Law, Chapter 111F of the General Laws of Massachusetts, specifically including live organisms, viruses and fungi, Medical Waste (as defined below), and so-called "biohazard" materials. The term "Hazardous Material" includes, without limitation, any material or substance which is (i) designated as a "hazardous substance" pursuant to Section 1311 of the Federal Water Pollution Control Act (33 U.S.C. Section 1317), (ii) defined as a "hazardous waste" pursuant to Section 1004 of the Federal Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq. (42 U.S.C. Section 6903), (iii) defined as a "hazardous substance" pursuant to Section 101 of the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601 et seq. (42 U.S.C. Section 9601), (iv) defined as "hazardous substance" or "oil" under Chapter 21E of the General Laws of Massachusetts, or (v) a so-called "biohazard" or Medical Waste, or is contaminated with blood or other bodily fluids; and "Environmental Laws" include, without limitation, the laws listed in the preceding clauses (i) through (iv). The term "Medical Waste" shall mean the types of waste described in any federal, state or local laws, rules and regulations and any similar type of waste. Tenant shall not cause or permit any Medical Waste to be brought, kept or used in or about the Premises or the Project by Tenant, its employees, agents, contractors or invitees except in strict compliance with all applicable Environmental Laws and with good scientific and medical practice. Tenant shall comply with all applicable and appropriate laboratory biosafety level criteria, requirements and recommendations including specific "BSL" limitations, standards, practices, safety equipment and facility requirements for the applicable BSL level pursuant to the Center for Disease Control and otherwise consistent with good scientific and medical practice (and in no event shall Tenant's use or occupancy involve activities that would qualify or be characterized or categorized as BSL 3 or BSL 4. Information can be found at: https://www.cdc.gov/biosafety/publications/bmbl5/bmbl5 Sect_iv.pdf).

(d) Tenant shall procure and maintain at its sole expense such additional insurance as may be necessary to comply with any requirement of any federal, state or local government agency with jurisdiction over Tenant's use, generation, or storage of Hazardous Materials at the Premises.

(e) Prior to the expiration of this Lease (or within thirty (30) days after any earlier termination), Tenant shall clean and otherwise decommission all interior surfaces (including floors, walls, ceilings, and counters), piping, supply lines, waste lines, acid neutralization system, and plumbing in and/or exclusively serving the Premises, and all exhaust or other ductwork in and/or exclusively serving the Premises, in each case which has carried or released or been exposed to any Hazardous Material, and shall otherwise clean the Premises (to the point of ceiling penetration) so as to permit the report hereinafter called for by this Section 29.11(e) to be issued; provided, Tenant shall not be responsible for decommissioning obligations relating to any Hazardous Material or environmental condition which existed within the Premises or the Building, Land and Complex prior to the date Tenant takes possession of, or enters, the Premises, unless the presence of such Hazardous Material or such environmental condition was exacerbated by Tenant (or Tenant's contractors, subcontractors, agents, subtenants, assigns, etc.). Prior to the expiration of this Lease (or within thirty (30) days after any earlier termination), Tenant, at Tenant's expense, shall obtain for Landlord a report addressed to Landlord and Landlord's designees (and, at Tenant's election, Tenant) by a reputable licensed environmental engineer or certified industrial hygienist that, in either case, is designated by Tenant and acceptable to Landlord in Landlord's reasonable discretion, which report shall be based on the environmental engineer's or industrial hygienist's inspection of the Premises and shall show: that the Hazardous Materials, to the extent, if any, existing prior to such decommissioning, have been removed as necessary so that the

interior surfaces of the Premises (including but not limited to floors, walls, ceilings, and counters), piping, supply lines, waste lines and plumbing, and all such exhaust or other ductwork in and/or exclusively serving the Premises, may be reused by a subsequent tenant or disposed of in compliance with applicable Environmental Laws without taking any special precautions for Hazardous Materials, without incurring special costs or undertaking special procedures for demolition, disposal, investigation, assessment, cleaning or removal of Hazardous Materials and without incurring regulatory compliance requirements or giving notice in connection with Hazardous Materials; and that the Premises may be reoccupied for research or laboratory use, demolished or renovated without taking any special precautions for Hazardous Materials, without incurring special costs or undertaking special procedures for disposal, investigation, assessment, cleaning or removal of Hazardous Materials and without incurring regulatory requirements or giving notice in connection with Environmental Substances. Further, for purposes of this Section: "special costs" or "special procedures" shall mean costs or procedures, as the case may be, that would not be incurred but for the nature of the Hazardous Materials as Hazardous Materials instead of non-hazardous materials. The report shall include reasonable detail concerning the clean-up location, the tests run and the analytic results. In addition, to the extent Tenant (or any party taking by or through Tenant) used, stored, generated or disposed of any radioactive or radiological substances on or about the Premises, such decommissioning shall also be conducted in accordance with the regulations of the U.S. Nuclear Regulatory Commission and/or the Massachusetts Department of Public Health for the control of radiation, and cause the Premises to be released for unrestricted use by the Radiation Control Program of the Massachusetts Department of Public Health for the control of radiation, and deliver to Landlord the report of a certified industrial hygienist stating that he or she has examined the Premises (including visual inspection, Geiger counter evaluation and airborne and surface monitoring) and found no evidence that such portion contains Hazardous Materials or is otherwise in violation of any Environmental Law. If Tenant fails to perform its obligations under this Section, without limiting any other right or remedy, Landlord may, on not less than ten (10) business days' prior written notice to Tenant perform such obligations at Tenant's expense, and Tenant shall promptly reimburse Landlord upon demand for all costs and expenses reasonably incurred together with an administrative charge of 10% of the cost thereof. Tenant's obligations under this Section shall survive the expiration or earlier termination of this Lease.

(f) Prior to the expiration of this Lease (or within thirty (30) days after any earlier termination), Tenant shall provide to Landlord a copy of its most current chemical waste removal manifest and a certification, based on the decommissioning report and actual knowledge after due inquiry, from Tenant executed by an officer of Tenant that no Hazardous Materials or other potentially dangerous or harmful chemicals brought onto the Premises from and after the date that Tenant first took occupancy of the Premises remain in the Premises.

(g) Tenant hereby represents and warrants to Landlord that (i) neither Tenant nor any of its legal predecessors has been required by any prior landlord, lender or governmental authority at any time to take remedial action in connection with Hazardous Materials contaminating a property which contamination was permitted by Tenant of such predecessor or resulted from Tenant's or such predecessor's action or use of the property in question, and (ii) Tenant is not subject to any enforcement order issued by any governmental authority in connection with the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials (including, without limitation, any order related to the failure to make a required reporting to any governmental authority).

(h) Landlord shall have the right to conduct annual tests of the Premises to determine whether any contamination of the Premises, the Building or the Complex has occurred as a result of Tenant's use. Tenant shall be required to pay the reasonable out of pocket cost of such annual test of the Premises if there is violation of this Section 29.11 or if contamination for which Tenant is responsible under this Section 29.11 is identified; provided, however, that if Tenant conducts its own tests of the Premises using third party contractors and test procedures acceptable to Landlord which tests are certified to Landlord, Landlord shall accept such tests in lieu of the annual tests to be paid for by Tenant. In addition, at any reasonable time, and from time to time, prior to the expiration or earlier termination of the Term, Landlord shall have the right to conduct appropriate tests of the Premises, the Building and the Complex to determine if contamination has occurred as a result of Tenant's use or occupancy of the Premises. In connection with such testing, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such non-proprietary information concerning the use of Hazardous Materials in, on or about the Premises by Tenant or any party taking by or through Tenant. If contamination has occurred for which Tenant is liable under this Section 29.11, Tenant shall pay all costs to conduct such tests; otherwise, such tests shall be paid for by Landlord. If no such contamination is found, Landlord shall pay the costs of such tests.

(i) Within ten (10) business days following Landlord's written request, Tenant shall provide Landlord with any information requested by Landlord concerning the existence, use, generation or disposal of Hazardous Materials and/or Medical Waste at the Premises, including, but not limited to, the following information: (a) the name, address and telephone number of the person or entity employed by Tenant to dispose of its Hazardous Materials and/or Medical Waste, including a copy of any contract with said person or entity, (b) all relevant information relating to such materials (e.g., a list of each type of Hazardous Materials and/or Medical Waste used, stored, generated or disposed of by Tenant at the Premises and a description of how Tenant disposes of said Hazardous Materials and/or Medical Waste, a copy of its most current materials list and applicable quantities thereof, applicable material safety data sheets (MSDS) and safety data sheets (SDS) and transportation and removal manifests), (c) a copy of any laws, rules or regulations in Tenant's possession relating to the disposal of the Hazardous Materials and/or Medical Waste generated by Tenant, and (d) copies of any licenses or permits obtained by Tenant in order to use, generate or dispose of Hazardous Materials and/or Medical Waste, including any MWRA permits and approvals. Tenant shall also promptly provide to Landlord upon written request a copy of any notice, registration, application, permit, or license given to or received from any governmental authority or private party, or persons entering or occupying the Premises, concerning the presence, release, exposure or disposal of any Hazardous Materials and/or Medical Waste in or about the Premises or the Complex.

(j) To the maximum extent this agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186, §15), but subject to Tenant's insurance requirements hereunder and Article 15 and Article 19, Tenant hereby covenants and agrees to indemnify, defend and hold Landlord and its employees, partners, agents, contractors, lenders and ground lessors (said persons and entities are hereinafter collectively referred to as the "Indemnified Parties") harmless from any and all liabilities, losses, costs, damages, claims, loss of rents, liens, judgments, penalties, fines, settlement costs, investigation costs, the cost of consultants and experts, attorney's fees, court costs and other legal expenses, the effects of environmental contamination, the cost of environmental testing, the removal, remediation and/or abatement of Hazardous Materials or Medical Waste, insurance policy deductibles and other expenses (collectively "Losses") arising out of or related to an "Indemnified Matter" (as defined below). For purposes of this Section 29.11(i), an "Indemnified Matter" shall mean any matter for which one or more of the Indemnified Parties incurs liability or Losses if the liability or Losses arise out of or involve, directly or indirectly, (i) the presence of any Hazardous Material or Medical Waste on or about the Premises (or the Complex), the presence of which is caused or permitted by Tenant or its employees, agents, contractors or invitees (all of said persons or entities are hereinafter collectively referred to as "Tenant Parties"), (ii) Intentionally Omitted, (iii) Tenant's failure to perform any of its obligations under this Section 29.11 or any other provision relating to Hazardous Materials, (iv) the existence, use or disposal of any Hazardous Material or Medical Waste brought on to the Complex by a Tenant Party, or (v) any other matters for which Tenant has agreed to indemnify Landlord or any Indemnified Party pursuant to any other provision of this Lease relating to Hazardous Materials. Tenant's obligations hereunder shall include, but shall not be limited to compensating the Indemnified Parties for Losses arising out of Indemnified Matters within thirty (30) days after written demand from an Indemnified Party and providing a defense, with counsel reasonably satisfactory to the Indemnified Party, at Tenant's sole expense, within thirty (30) days after written demand from the Indemnified Party, of any claims, action or proceeding arising out of or relating to an Indemnified Matter whether or not litigated or reduced to judgment and whether or not well founded. This indemnification of the Indemnified Parties by Tenant includes, without limitation, reasonable costs incurred in connection with any investigation of site conditions or any cleanup, remedial, removal or restoration work required by any federal, state or local governmental agency or political subdivision because of Hazardous Material present in the soil or ground water on or under the Premises based upon the circumstances identified herein. Without limiting the foregoing, if the presence of any Hazardous Material in the Building or otherwise in, on, at or under the Land or Complex caused by Tenant or its agents, contractors employees results in any contamination of the Premises, Tenant shall promptly take all actions at its sole expense as are necessary to return the Premises to a condition which complies with all Environmental Laws for the use of the Building as provided herein (or as then currently used); provided that Landlord's approval of such actions shall first be obtained, which approval shall not be unreasonably withheld, conditioned or delayed so long as such actions, in Landlord's reasonable discretion, would not potentially have any materially adverse long-term or short-term effect on the Premises, and, in any event, Landlord shall not withhold its approval of any proposed actions which are required by applicable Environmental Laws. The Indemnified Parties need not first pay any Losses to be indemnified hereunder. This indemnity is intended to apply to the fullest extent permitted by applicable law.

(k) The provisions of this Section 29.11 shall survive the expiration or termination of this Lease unless specifically waived in writing by Landlord after said expiration or termination.

29.12 Patriot Act.

Tenant represents and warrants to Landlord that, to Tenant's knowledge:

(A) Tenant is not in violation of any Anti-Terrorism Law

(B) Tenant is not, as of the date hereof:

- (i) conducting any business or engaging in any transaction or dealing with any Prohibited Person (as hereinafter defined), including the making or receiving of any contribution of funds, goods or services to or for the benefit of any Prohibited Person;
- (ii) dealing in, or otherwise engaging in any transaction relating to, any property or interests in property blocked pursuant to Executive Order No. 13224; or
- (iii) engaging in or conspiring to engage in any transaction that evades or avoids, or has the purpose of evading or avoiding, or attempts to violate any of the prohibitions set forth in, any Anti-Terrorism Law; and

(C) Neither Tenant nor any of its affiliates, officers, directors, shareholders, members or lease guarantor, as applicable, is a Prohibited Person.

If at any time any of these representations becomes false, then it shall be considered a material default under this Lease.

As used herein, "Anti-Terrorism Law" is defined as any law relating to terrorism, anti-terrorism, money-laundering or anti-money laundering activities, including without limitation the United States Bank Secrecy Act, the United States Money Laundering Control Act of 1986, Executive Order No. 13224, and Title 3 of the USA Patriot Act, and any regulations promulgated under any of them. As used herein "Executive Order No. 13224" is defined as Executive Order No. 13224 on Terrorist Financing effective September 24, 2001, and relating to "Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten to Commit, or Support Terrorism", as may be amended from time to time. "Prohibited Person" is defined as (i) a person or entity that is listed in the Annex to Executive Order No. 13224, or a person or entity owned or controlled by an entity that is listed in the Annex to Executive Order No. 13224; (ii) a person or entity with whom Landlord is prohibited from dealing or otherwise engaging in any transaction by any Anti-Terrorism Law; or (iii) a person or entity that is named as a "specially designated national and blocked person" on the most current list published by the U.S. Treasury Department Office of Foreign Assets Control at its official website, <http://www.treas.gov/ofac/t11sdn.pdf> or at any replacement website or other official publication of such list. "USA Patriot Act" is defined as the "Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001" (Public Law 107-56), as may be amended from time to time.

Landlord represents and warrants to Tenant that, to Landlord's knowledge:

(A) Landlord is not in violation of any Anti-Terrorism Law

(B) Landlord is not, as of the date hereof:

- (i) conducting any business or engaging in any transaction or dealing with any Prohibited Person (as hereinafter defined), including the making or receiving of any contribution of funds, goods or services to or for the benefit of any Prohibited Person;
- (ii) dealing in, or otherwise engaging in any transaction relating to, any property or interests in property blocked pursuant to Executive Order No. 13224; or

- (iii) engaging in or conspiring to engage in any transaction that evades or avoids, or has the purpose of evading or avoiding, or attempts to violate any of the prohibitions set forth in, any Anti-Terrorism Law; and

(C) Neither Landlord nor any of its affiliates, officers, directors, shareholders, members or lease guarantor, as applicable, is a Prohibited Person.

If at any time any of these representations becomes false, then it shall be considered a material default under this Lease.

29.13 Letter of Credit. In order to secure Tenant's obligations to Landlord under this Lease, Tenant shall deliver to Landlord, on the date that Tenant executes and delivers the Lease to Landlord, an Irrevocable Standby Letter of Credit ("Letter of Credit") which shall be (a) in the form attached hereto as Exhibit 9, (b) issued by a bank reasonably acceptable to Landlord, upon which presentment may be made in Boston, Massachusetts, (c) in an amount equal to the Letter of Credit Amount (set forth on Exhibit 1), and (d) for the period specified below, subject to extension in accordance with the terms of the Letter of Credit and as set forth herein. Landlord hereby approves Silicon Valley Bank and Wells Fargo as issuers of the Letter of Credit. In addition, if the credit rating, as determined by any commercially recognized rating agency, Landlord reserves the right to require Tenant to replace the Letter of Credit from time to time with a similar letter of credit issued by another bank satisfactory to Landlord. Tenant shall, on or before that date which is thirty (30) days prior to the expiration of the term of such Letter of Credit, deliver to Landlord a new Letter of Credit satisfying the foregoing conditions ("Substitute Letter of Credit") in lieu of the Letter of Credit then being held by Landlord. Such Letter of Credit shall be automatically renewable provided that if the issuer of such Letter of Credit gives notice of its election not to renew such Letter of Credit for any additional period pursuant thereto, Tenant shall be required to deliver a Substitute Letter of Credit satisfying the conditions hereof, on or before the date thirty (30) days prior to the expiration of the term of such Letter of Credit. Tenant agrees that it shall from time to time, as necessary, whether as a result of a draw on the Letter of Credit by Landlord pursuant to the terms hereof or as a result of the expiration of the Letter of Credit then in effect, renew or replace the original and any subsequent Letter of Credit so that a Letter of Credit, in the amount required hereunder, is in effect throughout Term of this Lease, including any extensions thereof, or in the event that Tenant remains in possession of the premises following the expiration of the term, or if Tenant has obligations hereunder to Landlord that remain unsatisfied following the expiration of the term (as may be extended), and for ninety (90) days after the latest to occur of the foregoing (i.e., the expiration of the term (as may be extended), the date on which Tenant vacates and yields up the premises, etc.). If Tenant fails to furnish such renewal or replacement at least thirty (30) days prior to the stated expiration date of the Letter of Credit then held by Landlord, Landlord may draw upon such Letter of Credit and hold the proceeds thereof (and such proceeds need not be segregated) as a security deposit pursuant to the terms of this Article 29.13.

The Letter of Credit (Substitute Letter of Credit or Additional Letter of Credit, as defined herein, as the case may be) shall be held to ensure the full and timely performance of all of Tenant's obligations under this Lease and may be drawn upon by Landlord and applied from time to time against any outstanding obligations of Tenant hereunder without notice or demand including, but not limited to, (a) any amount necessary to cure any default hereunder existing beyond any applicable notice or Grace Period (provided, however, that if any notice is prohibited, stayed or barred by applicable law [e.g., pursuant to the provisions of the Federal Bankruptcy Code] without obtaining court, trustee or other party's approval (e.g., relief from the automatic stay in the event of a bankruptcy), no notice shall be required for Landlord to draw upon the Letter of Credit) or (b) if such default cannot reasonably be cured by the expenditure of money, to exercise all rights and remedies Landlord may have on account of such default, the amount which, in Landlord's reasonable opinion, is necessary to satisfy Tenant's liability on account thereof. In the event of any such draw by the Landlord, Tenant shall, within fifteen (15) business days of written demand therefor, deliver to Landlord an additional Letter of Credit satisfying the foregoing conditions or a new letter of credit in the full amount of the Letter of Credit required by this Section 29.13 ("Additional Letter of Credit"), except that the amount of such Additional Letter of Credit shall be the amount of such draw. In addition, in the event of a termination based upon the default of Tenant under the Lease, or a rejection of the Lease pursuant to the provisions of the Federal Bankruptcy Code, Landlord shall have the right to draw upon the Letter of Credit (from time to time, if necessary) to cover the full amount of damages and other amounts due from Tenant to Landlord under the Lease. Any amounts so drawn shall, at Landlord's election, be applied first to any unpaid rent and other charges which were due prior to the filing of the petition for protection under the Federal Bankruptcy Code.

Upon request of Landlord or any (prospective) purchaser or mortgagee of the Building, Tenant shall, at its expense, cooperate with Landlord in obtaining an amendment to or replacement of any Letter of Credit which Landlord is then holding so that the amended or new Letter of Credit reflects the name of the new owner of the Building or mortgagee, as the case may be.

To the extent that Landlord has not previously drawn upon any Letter of Credit, Substitute Letter of Credit, Additional Letter of Credit or Security Proceeds (collectively "Collateral") held by the Landlord, and to the extent that Tenant is not otherwise in default of its obligations under the Lease as of the termination date of the Lease, Landlord shall return such Collateral to Tenant on the termination of the Term of the Lease.

In no event shall the proceeds of any Letter of Credit be deemed to be a prepayment of rent nor shall it be considered as a measure of liquidated damages.

Notwithstanding the foregoing, (x) based on Tenant's financial statements (provided in accordance with Section 17.5) for either of Tenant's 2020 and 2021 fiscal years if such financial statements (including cash balances and anticipated proposed uses of cash) demonstrate to Landlord's reasonable satisfaction that Tenant has sufficient cash, available for sale securities, or other cash equivalent to fund all operations and expenses through Tenant's fiscal year 2022, or (y) in any event from and after the last day of calendar year 2022, (with such determinate date being the "Reduction Date"), and provided that: (i) Tenant has not been in default of any of its obligations under this Lease after the giving of any applicable notice and the expiration of any applicable Grace Period prior to the Reduction Date, as hereinafter defined, in question, (ii) Tenant is, as of the Reduction Date, not in default of its obligation under the Lease beyond any applicable notice or Grace Period (provided, however, that if there is no reduction of the Letter of Credit Amount based upon Tenant's failure to satisfy the condition set forth in this clause (ii), then Tenant may subsequently achieve a reduction in the Letter of Credit Amount pursuant to this sentence at such time as Tenant cures such default and thereafter has a period of no less than nine (9) months without any subsequent default hereunder, so long as the Lease is then in full force and effect and Tenant is otherwise then in full compliance with its obligations under the Lease), and (iii) the Lease is then in full force and effect, Landlord shall allow the Letter of Credit Amount to be reduced, upon written request by Tenant, to Nine Hundred Two Thousand Seven Hundred Twenty-nine and 50/100 Dollars (\$902,729.50). Tenant's request for such reduction shall include, if not already provided, reasonable supporting documentation verifying Tenant's financial condition. Any reduction in the Letter of Credit shall be accomplished by Tenant providing Landlord with a substitute Letter of Credit in the reduced amount in exchange for the existing Letter of Credit(s) then held by Landlord, substantially in the form of Exhibit 9 hereto or in another form reasonably acceptable to Landlord, and shall be effective as of the date the same is delivered by Tenant to Landlord. Landlord shall return the original Letter of Credit and any applicable Cash Security to Tenant within five (5) days Landlord's receipt of the reduced Letter of Credit.

Tenant shall not seek to enjoin, prevent, or otherwise interfere with Landlord's draw under the Letter of Credit (or any Substitute Letter of Credit or Additional Letter of Credit) even if such draw violates this Lease. Tenant acknowledges that the only effect of a wrongful draw would be to substitute a cash Security Deposit for the Letter of Credit (or any Substitute Letter of Credit or Additional Letter of Credit), causing Tenant no legally recognizable damage. In the event of a wrongful draw, the parties shall cooperate to allow Tenant to post a replacement the Letter of Credit (or any Substitute Letter of Credit or Additional Letter of Credit, as the case may be) simultaneously with the return to Tenant of the wrongfully drawn sums, and Landlord shall upon request confirm in writing to the issuer of the Letter of Credit (or any Substitute Letter of Credit or Additional Letter of Credit) that Landlord's draw was erroneous. If Tenant receives a final determination from a court of competent jurisdiction that is not subject to appeal that Landlord has made a "wrongful" draw, (i) Landlord shall pay Tenant interest upon the amount of such wrongful draw at the Reference Rate, and (ii) Tenant shall be entitled to recover its reasonable attorney's fees in connection with such claim. For purposes of the immediately foregoing sentence, the term "wrongful" shall mean that Landlord had no reasonable basis to believe that it had the right to make the draw

29.14 Parking. Commencing as of the Term Commencement Date and continuing thereafter throughout the Term of the Lease, Tenant shall have the right to license up to the number of parking spaces set forth in Exhibit 1, above, in the Parking Facilities, and except for the Reserved Spaces (defined below) same will be unassigned and available on a first come, first served basis, to which Tenant will have controlled access twenty-four (24) hours per day, seven (7) days per week, for an initial monthly rental of three hundred fifty and 00/100 Dollars (\$350.00) per space ("Parking Rental"). Five (5) of Tenant's parking spaces hereunder shall be reserved parking spaces, in the locations as shown on Exhibit 3, which shall not be relocated without the prior written consent of Tenant, not to be unreasonably withheld, conditioned or delayed (the "Reserved Spaces"). Parking Rental rates shall be subject to increases equal to the prevailing market rate as established by Landlord from time to time. In the event that Tenant fails for any reason to timely pay the Parking Rental (or any portion thereof) herein provided with respect to any parking space, Landlord shall have any rights or remedies at law or equity, be free to terminate such parking rights for such unpaid spaces and lease such space to any other party, or person whatsoever and thereafter Tenant shall have no further rights hereunder with respect to such parking spaces or any other parking spaces on the property. Tenant may irrevocably surrender its rights to any or all of the parking spaces, upon thirty (30) days written notice. Tenant shall have no right to sublet, assign, or otherwise transfer said parking passes except in connection with an assignment of this Lease or sublease of the Premises which is permitted pursuant to the provisions of this Lease. At Landlord's election and at no cost to Tenant, Landlord may reasonably designate parking spaces for exclusive use by Tenant and other tenants of, and/or visitors to, the Building or Complex and may install signage or implement a pass or sticker system to control parking use. Landlord shall have no liability to Tenant if such spaces are for any reason at any time unavailable for Tenant's exclusive use, provided Landlord shall use commercially reasonable efforts to uniformly enforce parking rules and regulations at the Property, including Tenant's parking rights hereunder. Landlord reserves the right, from time to time, to change, alter, replace or relocate the parking areas and facilities, or Tenant's parking spaces therein, serving the Building or Complex, which may include areas and facilities located on or reasonably adjacent (e.g., across street or way) to the Land or the Complex, and to temporarily close portions thereof for maintenance and repairs as necessary; provided, however, (i) Landlord shall use commercially reasonable efforts to ensure that there be no unreasonable interference with Tenant's use and access to the Premises, the Reserved Spaces, or the remainder of the parking spaces set forth in Exhibit 1; and (ii) Landlord shall provide at least two (2) weeks' prior written notice (except in the case of an emergency, in which event notice shall be provided as soon as reasonably practicable) to Tenant of any such closure. Neither Landlord nor any parking operator of the parking facilities will have any responsibility for loss or damage due to fire or theft or otherwise to any automobile (or to any personal property therein) parked in the parking areas or facilities. Notwithstanding the foregoing, Tenant shall be entitled to a proportionate abatement of Parking Rental in the Parking Facilities (or portions thereof) are unavailable to Tenant beyond three (3) consecutive business days so long as (i) such lack of availability was not caused by Tenant, its employees, contractors, invitees or agents or by a casualty (in which event Section 18 shall control); (ii) Landlord does not provide Tenant comparable temporary parking facilities; and (iii) such lack of availability was the result of causes, events or circumstances within the Landlord's reasonable control and the cure of such unavailability is within Landlord's reasonable control.

29.15 MBTA Pass Purchase Program

Tenant is encouraged to participate, and shall encourage its employees to participate, in any required, proscribed or recommended public transportation programs including by way of example but not limited to providing employees with access to MBTA pass purchase programs, potential subsidies to full-time employees and pro-rata subsidies to part-time employees, posting and providing local train and bus schedules in addition to information as to where to purchase MBTA passes or Charlie Cards (online or a number of physical locations) and the like.

29.16 Tenant's Option to Extend the Term of the Lease.

(a) On the conditions, which conditions Landlord may waive, at its election, by written notice to Tenant at any time, that Tenant is not in default of its covenants and obligations under the Lease beyond any applicable notice or Grace Period, and that the Tenant originally named herein or a Permitted Transferee is leasing 100% of, and occupying at least 50% of, the Rentable Area of the Premises for the principal and primary uses allowed hereunder, both as of the time of option exercise and as of the commencement of the hereinafter described additional term, Tenant shall have the option (each, an "Option") to extend the Term of this Lease for two (2) additional five (5) year term (each, an "Option Term"), any such Option Term commencing as of the expiration of the then current Lease Term. The term "Term" as used in this Lease shall mean the initial Term of this Lease, as the same may be extended by any Option Term. Tenant may exercise such Option to extend by giving Landlord written notice at least twelve (12)

months prior to the expiration of the then current Lease Term. Upon the timely giving of such notice, the Term of this Lease shall be deemed extended upon all of the terms and conditions of this Lease, except that Landlord shall have no obligation to construct or renovate the Premises and that the Yearly Rent during such Option Term shall be as hereinafter set forth. If Tenant fails to give timely notice, as aforesaid, Tenant shall have no further right to extend the Term of this Lease, time being of the essence of this Article 29.16. If Tenant fails to timely exercise its rights hereunder, then within fifteen (15) days of Landlord's written request therefor, Tenant shall execute and deliver to Landlord a certification, in recordable form, confirming the Tenant's failure to exercise (or waiver of) such right, and Tenant's failure to so execute and deliver such certification shall (without limiting Landlord's remedies on account thereof) entitle Landlord to execute and deliver to any third party, and record, an affidavit confirming the failure or waiver, which affidavit shall be binding on Tenant and may be conclusively relied on by third parties; provided that such request, or any second request, if applicable, contains the following words in bold capital letters: **THIS IS A NOTICE UNDER ARTICLE 29.16 OF THE LEASE. IF TENANT FAILS TO DELIVER AN AFFIDAVIT AS REQUIRED UNDER SUCH ARTICLE WITHIN FIFTEEN (15) DAYS AFTER TENANT'S RECEIPT OF THIS LETTER, THEN TENANT HEREBY IRREVOCABLY CONSTITUTES AND APPOINTS LANDLORD, AND THEIR RESPECTIVE SUCCESSORS IN INTEREST, ACTING SINGLY, TENANT'S ATTORNEY-IN-FACT TO EXECUTE AND DELIVER SUCH AFFIDAVIT, ON BEHALF AND IN THE NAME OF TENANT.**

(b) Yearly Rent. The Yearly Rent during the Option Term shall be based upon the Fair Market Rental Value, as defined in Article 29.17, as of the commencement of the additional term, of the Premises then demised to Tenant.

(c) Tenant shall have no further option to extend the Term of the Lease other than the two (2) additional five (5) year Option Terms herein provided.

(d) Notwithstanding the fact that, upon Tenant's exercise of the herein Option to extend the Term of the Lease, such extension shall be self-executing, as aforesaid, the parties shall promptly execute a mutually agreeable lease amendment reflecting such Option Term after Tenant exercises the herein Option, except that the Yearly Rent payable in respect of such Option Term may not be set forth in said amendment. Subsequently, after such Yearly Rent is determined, the parties shall execute a mutually agreeable written agreement confirming the same. The execution of such lease amendment shall not be deemed to waive any of the conditions to Tenant's exercise of its rights under this Article 29.16, unless otherwise specifically provided in such lease amendment.

29.17 Definition of Fair Market Rental Value.

(a) "Fair Market Rental Value" shall be computed as of the date in question at the then current Yearly Rent, including provisions for subsequent increases and other adjustments, for leases or agreements to lease then currently being executed in comparable space located in the Building, or if no such leases or agreements to lease are then currently being negotiated or executed in the Building, the Fair Market Rental Value shall be determined by reference to leases or agreements to lease then currently being executed for comparable space located in the Building, the Complex or in first-class life science buildings in the Seaport District of Boston, Massachusetts. In determining Fair Market Rental Value, all relevant factors shall be taken into account and given effect, including, without limitation: size, location and condition of Premises, lease term, including renewal options, tenant's obligations with respect to operating expenses and taxes, tenant improvement allowances, condition of building, and services and amenities provided by the Landlord.

(b) Dispute as to Fair Market Rental Value:

Landlord shall initially designate Fair Market Rental Value and Landlord shall furnish data in support of such designation. If Tenant disagrees with Landlord's designation of a Fair Market Rental Value, Tenant shall notify Landlord, by written notice given within thirty (30) days after Tenant has been notified of Landlord's designation, of its disagreement whereupon the parties shall negotiate in good faith to arrive at a mutually agreeable Fair Market Rental Value. If the parties are unable to agree within thirty (30) days after Tenant's notice to Landlord, the parties shall submit such Fair Market Rental Value to arbitration. Fair Market Rental Value shall be submitted to arbitration as follows: Fair Market Rental Value shall be determined by impartial arbitrators, one to be chosen by the Landlord, one to be chosen by Tenant, and a third to be selected, if necessary, as below provided. The unanimous written decision of the two first chosen, without selection and participation of a third arbitrator, or otherwise, the

written decision of a majority of three (3) arbitrators chosen and selected as aforesaid, shall be conclusive and binding upon Landlord and Tenant. Landlord and Tenant shall each notify the other of its chosen arbitrator within ten (10) days following the call for arbitration and, unless such two arbitrators shall have reached a unanimous decision within thirty (30) days after their designation, they shall so notify the President of the Boston Bar Association (or such organization as may succeed to said Boston Bar Association) and request him or her to select an impartial third arbitrator. All arbitrators shall have at least ten (10) years of professional experience as a real estate broker dealing with first-class life science buildings in the Seaport District of Boston, Massachusetts, to determine Fair Market Rental Value as herein defined, and, with respect to the third arbitrator, shall not have or within the three (3) prior years previously had a business relationship with either Landlord or Tenant. Such third arbitrator and the first two chosen shall, subject to commercial arbitration rules of the American Arbitration Association, hear the parties and their evidence and render their decision within thirty (30) days following the conclusion of such hearing and notify Landlord and Tenant thereof. Landlord and Tenant shall each bear the expense of their own arbitrator, and shall bear the expense of the third arbitrator (if any) equally. The decision of the arbitrators shall be binding and conclusive, and judgment upon the award or decision of the arbitrators may be entered in the appropriate court of law (as identified on Exhibit 1); and the parties consent to the jurisdiction of such court and further agree that any process or notice of motion or other application to the Court or a Judge thereof may be served outside the Commonwealth of Massachusetts by registered mail or by personal service, provided a reasonable time for appearance is allowed. If the dispute between the parties as to a Fair Market Rental Value has not been resolved before the commencement of Tenant's obligation to pay rent based upon such Fair Market Rental Value, then Tenant shall pay Yearly Rent and other charges under the Lease in respect of the Premises in question based upon the Fair Market Rental Value designated by Landlord until either the agreement of the parties as to the Fair Market Rental Value, or the decision of the arbitrators, as the case may be, at which time Tenant shall pay any underpayment of rent and other charges to Landlord, or Landlord shall refund any overpayment of rent and other charges to Tenant.

29.18 Right of First Offer on Certain Space.

(a) Within the Building. Tenant shall have the right of first offer to lease any space on the third (3rd) floor, and any other space that is contiguous (i.e., adjacent to, either vertically or horizontally) to the Premises, in the Building that becomes available for occupancy (the "Available Space") during the Lease Term subject to and in accordance with the terms and conditions set forth in this Section 29.18(a) and (b). If at any time from and after the Term Commencement Date prior to expiration of the Term any Available Space shall become available, Landlord shall notify Tenant thereof in writing ("Landlord's Available Space Notice"), which notice shall include the anticipated estimated date upon which such Available Space shall become available for occupancy by Tenant (the "Anticipated Available Space Commencement Date") along with a floor plan showing the approximate rentable square footage thereof. Tenant shall have the right to lease all such Available Space described in Landlord's Available Space Notice only by giving written notice to Landlord within fourteen (14) business days after Tenant receives Landlord's Available Space Notice, time being of the essence. If Tenant so elects to lease the subject Available Space, such Available Space shall be leased upon the same terms and conditions contained in this Lease, except that: (x) the Yearly Rent for such space shall be equal to the Fair Market Rental Value therefor determined in accordance with this Section 29.17 above (made applicable hereto by such changes and modifications as are required given the application hereof, *mutatis mutandis*), and the subject Available Space shall be and become part of the Premises hereunder upon the delivery of such Available Space to Tenant, (y) it is understood and agreed that the subject Available Space shall be leased by Tenant in its then "as-is", "where-is" condition, without warranty or representation by Landlord and Landlord shall have no obligation to complete any work to prepare the applicable Available Space for Tenant's use and occupancy or provide any allowance or contribution therefor except as may be otherwise expressly described in Landlord's Available Space Notice, and (z) there shall be at least five (5) full Lease Years remaining in the Term from and after the delivery of such Available Space (which five (5) Lease Year period may include Tenant's early exercise of any remaining extension term). Following such election by Tenant, and effective as of the delivery of the applicable Available Space and for the balance of the Term and any extension thereof: (i) the "Premises", as used in this Lease, shall include the applicable Available Space; (ii) the Total Rentable Floor Area of the Premises shall be increased to include the rentable square footage of the applicable Available Space (and any Additional Rent, charges and expenses due under this Lease shall be re-calculated to reflect the inclusion of the Available Space); (iii) the annual Yearly Rent shall equal the sum of the then current Yearly Rent provided for in this Lease plus the Yearly Rent for the applicable Available Space as determined herein and (iv) the number of parking spaces provided in Exhibit 1 shall be increased proportionate to the rentable square footage of the applicable Available Space. To confirm the inclusion of the subject Available Space as set forth above, Landlord shall prepare, and Tenant and Landlord shall promptly execute and

deliver, a mutually agreeable amendment to this Lease reflecting the foregoing terms and incorporation of any Available Space. For the purposes hereof, space shall be deemed “available for occupancy” only when and after the first (1st) lease (including any extension periods) has expired or is due to expire within not less than six (6) months, and/or Landlord has elected not to renew the lease of the present tenant, and any prior options, rights or rights to lease with respect to such Available Space have expired or been waived and Landlord is free to lease such space to third parties without restriction. For clarity, Tenant understands that all vacant space in the Building as of the date hereof is not “available for occupancy” will only become “available for occupancy” from and after such space has been leased and such lease term has expired and is not be extended with the tenant or occupant thereunder (including at Landlord’s discretion beyond the existing terms and conditions of such lease) and Tenant’s rights hereunder are subject to any extension rights, expansion rights, options to lease or any rights of first negotiation, first offer or first refusal to lease granted to the tenants of such space and Landlord’s right to extend such leases with such tenants, which are: one (1) building tenant has a right of first offer to lease any space on the third (3rd) and fourth (4th) floors in the Building that becomes available for occupancy from and after the expiration of the Lease Term (as same may be extended pursuant to Section 29.16) or the termination of this Lease.

(b) Waiver. If Tenant fails to timely exercise, or waives, any of its rights hereunder, the right(s) granted hereunder as to any applicable Available Space or Phase II Available Space, as the case may be, shall be deemed waived for all purposes as to such Available Space or to the Phase II Available Space, as the case may be, and Landlord or Landlord Party, as the case may be, may lease the applicable Available Space or Phase II Available Space, as the case may be, to any party and upon any terms free of any rights of Tenant; provided that (i) Tenant shall again have the right of first offer on any such space located on the third (3rd) floor of the Building when any applicable lease entered into for such third (3rd) floor space from and after such waiver (or deemed waiver) therefor expires and such third (3rd) floor space once again becomes available for occupancy hereunder, and (ii) the re-offer requirement due to a Materially Different offer per subsection (c) below. For clarity, except with respect to Available Space on the third (3rd) floor, Tenant’s right of first offer on any other Available Space in the Building or space in the Phase II Building, respectively, shall be a one-time right, except as to a re-offer requirement for due to a Materially Different offer per subsection (c) below. Tenant, following such waiver and within fourteen (14) business days of Landlord’s written request therefor, shall execute and deliver to Landlord a certification, in recordable form, confirming the waiver of such right, and Tenant’s failure to so execute and deliver such certification shall (without limiting Landlord’s remedies on account thereof) entitle Landlord to execute and deliver to any third party, and record, an affidavit confirming the waiver, which affidavit shall be binding on Tenant and may be conclusively relied on by third parties.

(c) Within the Complex. In the event that Landlord, or an entity owning or controlling Landlord or owned or controlled by or under common control with Landlord, or a successor-in-interest or assignee of any such party’s rights in the Phase II EDIC Ground Lease (as defined below), (a “Landlord Party”) constructs and operates a building on Phase II of the Complex, as identified in Exhibit 17 (the “Phase II Building”), Tenant shall have the right of first offer to lease certain space in the Phase II Building from the Landlord Party during the Lease Term subject to and in accordance with the terms and conditions set forth in this Section 29.18(c). Landlord or such Landlord Party shall provide Tenant written notice when the Phase II Building is complete or in the process of being substantially completed, whereupon Tenant’s rights hereunder shall apply only if: (i) within fourteen (14) business days of such notice, Tenant provides written notice to Landlord that Tenant desires to lease space in the Phase II Building (“Tenant’s Phase II Notice”), which notice shall include Tenant’s required Phase II Building space needs (which shall in no event be less than 35,000 rentable square feet therein, except as expressly set forth below) and any other specific space or facility requirements consistent with the Phase II Building; (ii) the Phase II Building is complete or in the process of being substantially completed by a Landlord Party and can reasonably accommodate Tenant’s Phase II Building space needs set forth in Tenant’s Phase II Notice; and (iii) Landlord has not leased (or otherwise encumbered [e.g., put or call rights, expansion rights, etc.] by the lease) to a single tenant (including any such tenant’s affiliates), all or such portion(s) of the Phase II Building such that there will not be available Phase II Building space that will accommodate Tenant’s Phase II Notice space needs. Subject to the foregoing conditions ((i), (ii) and (iii)); provided, however, that with respect to Subsection (iii), if Subsections (i) and (ii) are satisfied, but less than 35,000 rentable square feet is available for occupancy in the Phase II Building (i.e., the remainder of the space is leased or otherwise encumbered to a single tenant or its affiliate, in accordance with the foregoing clause (ii)), such initial lesser space shall be considered as Phase II Available Space and Landlord shall provide a Landlord’s Phase II Available Space Notice [as those terms are defined below] for such lesser space for Tenant’s one-time option hereunder, if at any time from and after the Term Commencement Date and prior to expiration of the Term (or unless Tenant’s rights hereunder as to the Phase II Building are terminated as provided herein), and so long as a Landlord Party owns or controls the

Phase II Building, any space consistent with Tenant's Phase II Notice becomes available for occupancy (as defined below) ("Phase II Available Space"), Landlord shall notify Tenant thereof in writing ("Landlord's Phase II Available Space Notice"), which notice shall include Landlord's determination of the Fair Market Rental Value, the anticipated estimated date upon which such Phase II Available Space shall become available for occupancy by Tenant (the "Anticipated Phase II Available Space Commencement Date") along with a floor plan showing the approximate rentable square footage thereof. Tenant shall have the right to lease all such Phase II Available Space described in Landlord's Phase II Available Space Notice only by giving written notice to Landlord within fourteen (14) business days after Tenant receives Landlord's Phase II Available Space Notice, time being of the essence. If Tenant so elects to lease the subject Phase II Available Space, such Phase II Available Space shall be leased upon substantially similar terms and conditions contained in this Lease, and using a lease substantially similar to this Lease with such changes and modifications as may be necessary to make such Phase II lease comport and be consistent with Phase II of the Complex provided that in any event: (x) the Yearly Rent for the Phase II Available Space shall be equal to the Fair Market Rental Value therefor determined in accordance with Section 29.17 above (made applicable hereto by such changes and modifications as are required given the application hereof, *mutatis mutandis*, to the Phase II Building), (y) it is understood and agreed that the Phase II Available Space shall be leased by Tenant in its base building shell condition, without additional warranty or representation by Landlord and Landlord shall have no obligation to complete any work to prepare the applicable Phase II Available Space for Tenant's use and occupancy or provide any allowance or contribution therefor, except to the extent same is expressly incorporated into the Fair Market Rental Value as provided above, and (z) the term of the Phase II lease and this Lease shall be for at least seven (7) full Lease Years from and after the delivery of such Phase II Available Space (which seven (7) Lease Year period for this Lease may include Tenant's early exercise of any remaining extension term). For the purposes hereof, Phase II Space shall be deemed "available for occupancy" and Tenant's rights hereunder shall continue only for so long as the conditions set forth in (i), (ii) and (iii) continue to be satisfied; provided, however, that Landlord shall not lease space that would otherwise satisfy Tenant's required Phase II Building space needs as set forth in Tenant's Phase II Notice on economic terms which are Materially Different (as defined below) than those contained in any original Landlord's Phase II Available Space Notice without Landlord re-offering the Phase II Available Space to Tenant, subject, however, to the terms hereof. For the purposes of this Section, "Materially Different" shall mean the total effective rent (as defined below) offered is less than ninety percent (90%) of the total effective rent set forth in the original Landlord's Available Space Notice or Landlord's Phase II Available Space Notice, as the case may be. For the purposes of this Section, "total effective rent" shall mean the aggregate consideration payable by the tenant under the proposed lease transaction, taking into account any applicable free rent, moving expenses, allowances or other inducement payments offered by Landlord, assumptions or buyouts of the tenant's obligations under other leases to be paid or credited by Landlord, the anticipated cost of any leasehold improvements to be performed by Landlord at its expense, or provided as an allowance or incorporated into the rent, and the method by which the tenant's share of Operating Expenses and Taxes are determined, pursuant to such proposed lease.

(d) Mortgagee Rights, EDIC Rights, etc. Tenant acknowledges and agrees that the Phase II Building would be constructed, if applicable, on that parcel of land consisting of approximately 98,200 square feet of land currently leased pursuant to that certain Ground Lease dated September 14, 2015 between EDIC, as landlord, and TS Partners LLC (currently a Landlord Party), as tenant, as amended by that certain First Amendment of Ground Lease dated November 21, 2017, and the development option, rights and obligations contained therein (collectively, the "Phase II EDIC Ground Lease"). As stated in Section 29.18(c) above, Tenant's rights thereunder apply only for so long as a Landlord Party owns and controls the Phase II Building pursuant to the Phase II EDIC Ground Lease. Tenant's unexercised rights with respect to the Phase II Building as set forth in Section 29.18 shall at all times be subject and subordinate to the Phase II EDIC Ground Lease and any mortgage or deed of trust or similar instrument duly recorded on Phase II of the Complex; provided that the any holder of such mortgagee, deed of trust or similar interest or Phase II EDIC Ground Lease ground lessor may from time to time subordinate or revoke any such subordination of the mortgage or ground lease held by it to the rights herein. In the event a Landlord Party does not exercise, pursue or complete its development option or rights under the Phase II EDIC Ground Lease, or in the event the Phase II EDIC Ground Lease expires or is terminated, Tenant's unexercised rights hereunder shall cease and be of no further force or effect. In addition, in the event of a foreclosure of any such mortgage or deed of trust or similar instrument, or the acquisition of title to the Phase II Building by deed in lieu of foreclosure or trustee's sale or otherwise, Tenant's unexercised rights with respect to the Phase II Building as set forth in Section 29.18 shall be terminated in the event of the expiration or termination of the Phase II EDIC Ground Lease and/or a foreclosure. Tenant agrees at any time and from time to time during the Term hereof to execute a suitable instrument in confirmation of the foregoing, as aforesaid, and Tenant hereby irrevocably constitutes and appoints Landlord or any

such mortgagee, and their respective successors in interest, acting singly, Tenant's attorney-in-fact to execute and deliver any such instrument for, on behalf and in the name of Tenant, but only if Tenant fails to execute, acknowledge and deliver any such certificate or instrument within ten (10) business days after Landlord or such mortgagee or such ground lessor has made written request therefor.

29.19 Intentionally Omitted

29.20 Waiver of Jury Trial.

LANDLORD AND TENANT HEREBY WAIVE THEIR RESPECTIVE RIGHT TO TRIAL BY JURY OF ANY CAUSE OF ACTION, CLAIM, COUNTERCLAIM OR CROSS-COMPLAINT IN ANY ACTION, PROCEEDING AND/OR HEARING BROUGHT BY EITHER LANDLORD AGAINST TENANT OR TENANT AGAINST LANDLORD ON ANY MATTER WHATSOEVER ARISING OUT OF, OR IN ANY WAY CONNECTED WITH, THIS LEASE, THE RELATIONSHIP OF LANDLORD AND TENANT, TENANT'S USE OR OCCUPANCY OF THE PREMISES, OR ANY CLAIM OF INJURY OR DAMAGE, OR THE ENFORCEMENT OF ANY REMEDY UNDER ANY LAW, STATUTE, OR REGULATION, EMERGENCY OR OTHERWISE, NOW OR HEREAFTER IN EFFECT.

[Execution Page Follows]

IN WITNESS WHEREOF the parties hereto have executed this Indenture of Lease in multiple copies, each to be considered an original hereof, as a sealed instrument on the day and year noted in Exhibit 1 as the Execution Date.

LANDLORD:

RBK I TENANT, LLC, a Delaware limited liability company

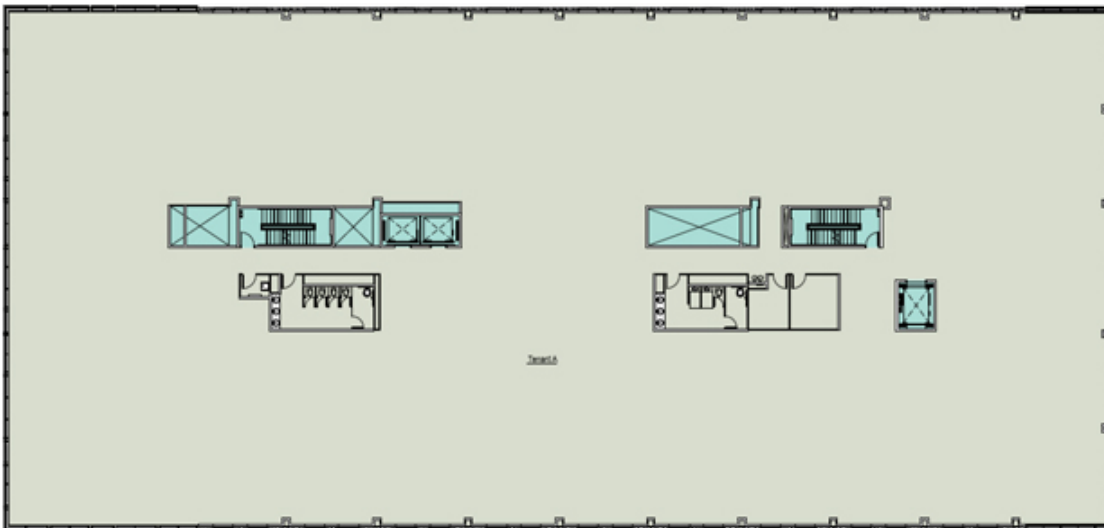
By: /s/ Kimberly Sherman Stamler
Name: Kimberly Sherman Stamler
Title: Its Authorized Signatory

TENANT:

PURETECH HEALTH LLC, a Delaware limited liability company

By: /s/ Stephen Muniz
Name: Stephen Muniz
Title: Chief Operating Officer
Hereunto Duly Authorized

LEASE PLAN



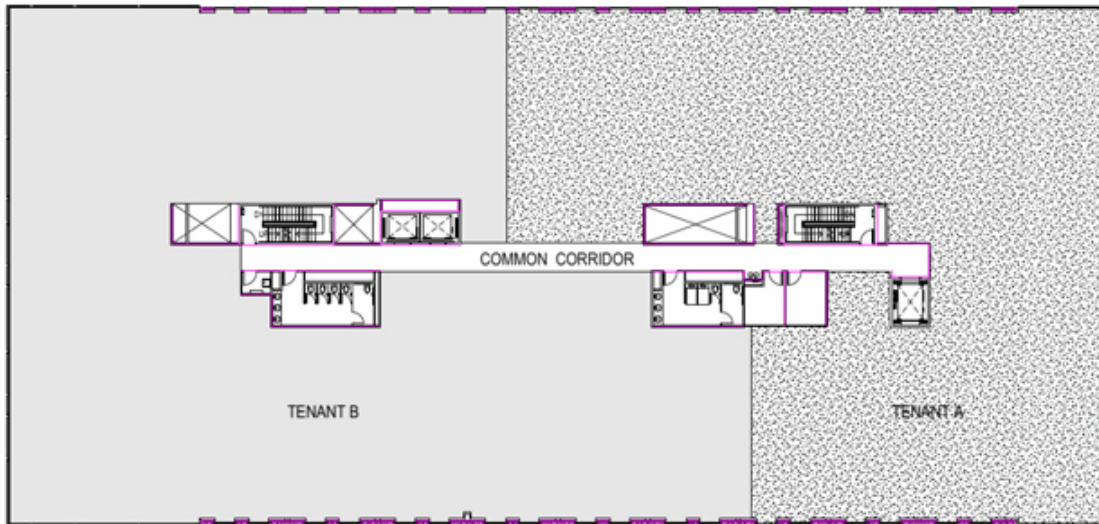
DRAFT FOR REVIEW



4th Floor BOMA Plans



1/16" = 1'-0"
ISQ - SEAPORT | RBK, LLC c/o Related Real 2018.07.18



DRAFT FOR REVIEW



3rd Floor BOMA Plans



1/16" = 1'-0"
ISQ - SEAPORT | RBK, LLC c/o Related Real 2018.07.18

EXHIBIT 3

PLAN OF BUILDING AND LAND
(PRELIMINARY)

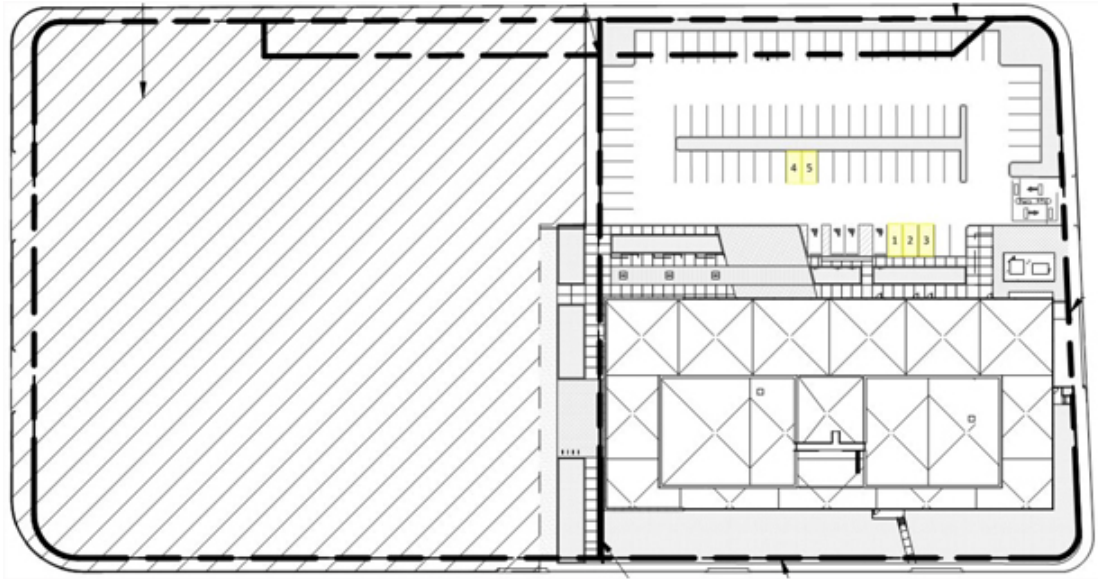


EXHIBIT 4
TERM COMMENCEMENT DATE AGREEMENT

PURETECH HEALTH LLC ("Tenant") hereby certifies that it has entered into a lease with **RBK I TENANT, LLC**, ("Landlord") dated _____ (the "Lease") and verifies the following information as of the ____ day of _____, _____. Capitalized terms used, but not herein defined, shall have the meaning ascribed in the Lease:

Address of Building:	
Number of Rentable Square Feet:	r.s.f.
Term Commencement Date:	
Rent Commencement Date:	N/A
Lease Termination Date:	
Tenant's Proportionate Share:	%
Initial Yearly Rent:	\$
Option to Extend:	
Initial Letter of Credit Amount:	\$

Tenant acknowledges and agrees that all improvements Landlord is obligated to make to the Premises, if any, have been completed to Tenant's satisfaction, that Tenant has accepted possession of the Premises, and that as of the date hereof, there exist no offsets or defenses to the obligations of Tenant under the Lease.

TENANT:

PURETECH HEALTH LLC

By: _____
Name: _____
Title: _____

Hereunto duly authorized

LANDLORD:

RBK I TENANT, LLC

By: _____
Name: _____
Title: Its Authorized Signatory

EXHIBIT 5
CURRENT RULES AND REGULATIONS

1. Tenant will review any non-binding tenant manuals or information provided prior to move-in at Building and will provide referenced forms including emergency contacts, designated tenant representative, and card access requests and will notify Landlord when changes in information occur.
2. The entrances, vestibules, passages, corridors, halls, elevators and stairways within the Common Areas shall not be encumbered nor obstructed by Tenant, Tenant's agents, servants, employees, licensees or visitors, or be used by them for any purpose other than ingress or egress to and from the Premises. Landlord reserves the right to reasonably restrict and regulate the use of aforementioned public areas of the Building by Tenant, Tenant's agents, employees, servants, licensees and visitors and by persons making deliveries to Tenant.
3. After the conclusion of Tenant's initial move into the Premises, other movement in or out of the Building of furniture or office equipment which requires the use of elevators or stairways or the movement through the main Building entrance shall be restricted to the after business hours reasonably designated by Landlord. All such movement shall be under the supervision of Landlord and performed in the manner agreed upon between Tenant and Landlord, cooperating in good faith, by pre-arrangement before performance. Such pre-arrangement initiated by Tenant will include the determination by Landlord and subject to Landlord's reasonable discretion, relating to the time, method, and routing of the items' movement, as well as reasonable limitations imposed by safety, appearance or other reasonable concerns which may include the prohibition of equipment or any other item from being brought into the Building, as well as the method of the items' movement through the Building. Tenant shall assume with its contractors, all risk as to damage caused by any such movement or property being moved or injury to persons or public engaged or not engaged in such movement, including equipment, property, and personnel of Landlord if damaged or injured as a result of Tenant or its contractor's negligent or willful acts in connection with such Tenant arranged moving from the time of entering the property to the completion of work. Landlord shall not be liable for the acts of any person engaged in, or any damage or loss to any of said property or persons resulting from any act in connection with such moving performed by Tenant arrangement, except relating to Landlord's or its agent's or contractor's negligence or misconduct.
4. After the conclusion of Tenant move-in, all deliveries, inclusive of packages, office supplies, etc., must be made via the freight elevator during normal Building operating hours as set forth in the Lease. Landlord's written approval must be obtained for any delivery made after business hours and Tenant will be responsible for the expense of the security attendant who monitors access to the Building during the period of such delivery.
5. Tenant shall not permit the parking or standing of delivery vehicles to interfere with the use of any driveway, walk, parking area or other Common Areas.
6. No hand trucks or delivery dollies, except those equipped with rubber tires and padded side guards, shall be used in any of the Common Areas of the Building, either by Tenant or by jobbers or others in the delivery or receipt of merchandise.
7. All deliveries to the Tenant must be accepted or rejected by Tenant. The Landlord and its agents or employees will not accept, sign for, or hold Tenant mail, packages, or deliveries.
8. Tenant shall not make, or permit to be made, any unseemly or unreasonably disturbing noises, odors, or vibrations to emanate from Premises or otherwise unreasonably disturb or interfere with the occupancy of the Building whether by the use of any equipment, musical instrument, radio, television, talking machine, unmusical noise, whistling, singing, or in any other way.
9. No additional locks, or security devices will be installed without prior notification and approval by Landlord. New locks or rekeying must be coordinated with Landlord and keyed on building master system. Upon move-in all doors with locksets will be keyed to building master system and Tenant will be given 2 keys by Landlord. Additional keys may be requested in advance and at an additional reasonable charge to Tenant. Upon termination of Lease, Tenant will return 2 keys to each lock, and further will disclose any previously approved and installed security devices including combination locks, punch codes to doors and vaults.

10. After the initial move-in, for which the distribution of access cards will be provided at no cost to Tenant, Tenant agrees to pay a reasonable amount fixed by Landlord from time to time, for each building access card issued by Landlord to Tenant for access to Building during non-business hours. Such expense is presently \$20.00 per card.
11. Landlord specifically reserves the right to exclude from the Building during non-business hours, such as before 8:00 a.m. and after 6:00 p.m. on weekdays, on Saturdays and Sundays, and Building recognized holidays, all persons not permitted entry by utilizing card access, telephone access system, or previous arrangement with the management office.
12. Tenant shall be responsible for persons it authorizes to have access to the Building during non-business hours and shall be liable for and shall coordinate which persons should have access cards issued. Tenant shall keep access card records current and properly identified by employee name.
13. Landlord shall not be required to permit entrance to Tenant's Premises or offices by use of pass keys controlled by Landlord to any person at any time except as may be expressly requested in writing by Tenant. It is recommended that Tenant inform Tenant employees of these lockout procedures.
14. All service requests of Tenant required of Landlord shall be administered through Building management office. Tenants will not contract independently with employees and agents of Landlord without the coordination of the management office, nor shall Tenant request employees or agents of Landlord to receive or carry messages for or to any Tenant or other person.
15. None of the entries, passages, doors, elevators, elevator doors, hallways, or stairways or other Common Areas shall be blocked or obstructed, nor shall any rubbish, litter, trash, or material of any nature be placed, emptied, or thrown into these areas, nor shall such areas be used at any time except for ingress and egress by Tenant, Tenant's agents, employees, or invitees.
16. No boxes, crates, pallets, or other such materials shall be stored in building hallways or other Common Areas. When Tenant must dispose of crates, boxes, etc., it will be the responsibility of Tenant to dispose of same prior to, or normal Building operating hours, so as to avoid having such debris visible or being moved in the Common Areas during normal business hours. If such items are desired to be removed as part of evening janitorial service, the reasonable expense of such will be borne by Tenant.
17. Each Tenant shall cooperate with Landlord's employees in keeping the Common Areas neat and clean.
18. The water and wash closets, drains and other plumbing fixtures shall not be used for any purposes other than those for which they were constructed, and no sweepings, rubbish, rags, or other substances shall be thrown or placed therein. Damages or maintenance expense resulting from any misuse of fixtures or disposal of the above by Tenant, its servants, employees, agents, visitors, or licensees, shall be borne by Tenant.
19. Unless otherwise provided for in this Lease, Tenant shall not mark, paint, drill into, or in any way deface any part of the Premises or the Building, except for Tenant's interior design components and furnishings in the Premises or the approved signage. Other than for initial move-in, no boring, cutting, or stringing for wires shall be permitted without the prior written consent of Landlord and as Landlord may direct.
20. Unless otherwise provided in this Lease, neither Tenant, nor its servants, employees, agents, visitors, or licensees, shall at any time bring or keep upon the Premises any flammable, combustible, or explosive fluid, chemical or substance (including Christmas trees and ornaments) except such items as may be incidentally used, provided Tenant notifies Landlord of the location thereof and makes adequate provision for safe storage. No space heaters or fans shall be operated or located in the Premises, other than UL approved or Landlord installed appliances.

21. Except as otherwise expressly provided in the Lease, no bicycles, vehicles, or animals, except with respect to Tenant's vivarium and those used by the disabled, shall be brought into or kept in or about the Premises or Building; provided, however, Landlord shall provide a bicycle storage area in the Building in a manner generally consistent with or customary for comparable life science buildings in the Seaport District of Boston, Massachusetts.
22. Tenant will not locate furnishings or cabinets directly adjacent to mechanical or electrical panels, HVAC equipment or other mechanical equipment so as to prevent personnel from servicing such units or equipment as routine or emergency access may require. Reasonable out-of-pocket cost of moving such furnishings for Landlord's access will be borne by Tenant.
23. No space in the Premises or Building shall be used for lodging, sleeping, storage of money in excess of \$300, or storage of drugs or medicine not typically found of quality or quantity in First Aid supply kits or for other legal purposes, subject to the terms and conditions of the Lease.
24. Tenant shall not place, install or operate on the Premises or in any part of the Building, any engine, stove, or machinery, or conduct mechanical operations or cook thereon or therein except Tenants microwave, refrigerator, office, laboratory, and communication equipment, except as otherwise provided in the Lease.
25. Tenant must obtain prior written approval, which shall be at Landlord's sole discretion, for installation of window shades, blinds, drapes, or any other window treatment of any kind whatsoever which would be visible from exterior of building other than Landlord supplied. Landlord will approve all internal lighting that may be visible from the exterior of the Building and shall have the right to change any unapproved lighting, without notice to Tenant, at Tenant's expense.
26. Tenant will coordinate with Landlord all Tenant arranged contractors, and installation technicians, rendering any construction or installation service to Tenant before performance of any such service. This provision shall apply to all work performed in the Building by Tenant arranged contractors including the installation of telephones, telegraph equipment, electrical devices and attachments, and the installation of any nature affecting the floors, walls, woodwork, trim, windows, ceiling, equipment (other than Tenant's office equipment), or any other physical portion of the Building.
27. Tenant shall (unless impossible due to the nature of such required repairs), at its expense, provide artificial light for the employees of Landlord while making repairs or providing services in said Premises regardless of whether occurring during business or non-business hours after lease commencement date.
28. Smoking is prohibited in common entrances, vestibules, passages, corridors, halls, elevators, stairways, and toilet rooms of the Building. Tenant is responsible for informing all of its vendors, service providers, agents, employees, licensees, and visitors of this policy. Landlord reserves the right to request that any person(s) engaged in the act of smoking (in the Common Areas recited above), at this or her choice, either cease smoking or leave the Common Areas of the Building immediately.
29. Canvassing, soliciting, and peddling in the Building and parking facilities is prohibited. Landlord and Tenant shall cooperate to prevent same.
30. Except as otherwise provided in this Lease, Tenant shall restrict parking by Tenant, its employees, service providers, agents, and visitors to parking areas designated by Landlord and shall comply with reasonable parking rules and regulations as may be posted and distributed from time to time and of which Tenant perceives prior written notice (which may include email notice).
31. Tenant will evacuate the Premises and Building in the event of emergency or catastrophe notification; whether practice drill, false alarm, or actual occurrence.
32. Tenant will notify Landlord of any incidents, accidents, injuries, or hazards which Tenant is aware of, which occur, or are present in Premises or Building.

33. Tenant will be requested to participate in recycling and other expense reduction programs offered by Building.

Landlord reserves the right to rescind any of these rules and make such other and further reasonable rules and regulations as in Landlord's judgment shall from time to time be needed for the safety, protection, care and cleanliness of the Building, the operation thereof, the preservation of good order therein, and the protection and comfort of its Tenants, their agents, employees, and invitees, which rules when made and written notice (which may include email) thereof given to a Tenant shall be binding upon Tenant in the manner as if originally prescribed, provided that such rules and regulations do not conflict with Tenant's rights under the Lease in any material respect.

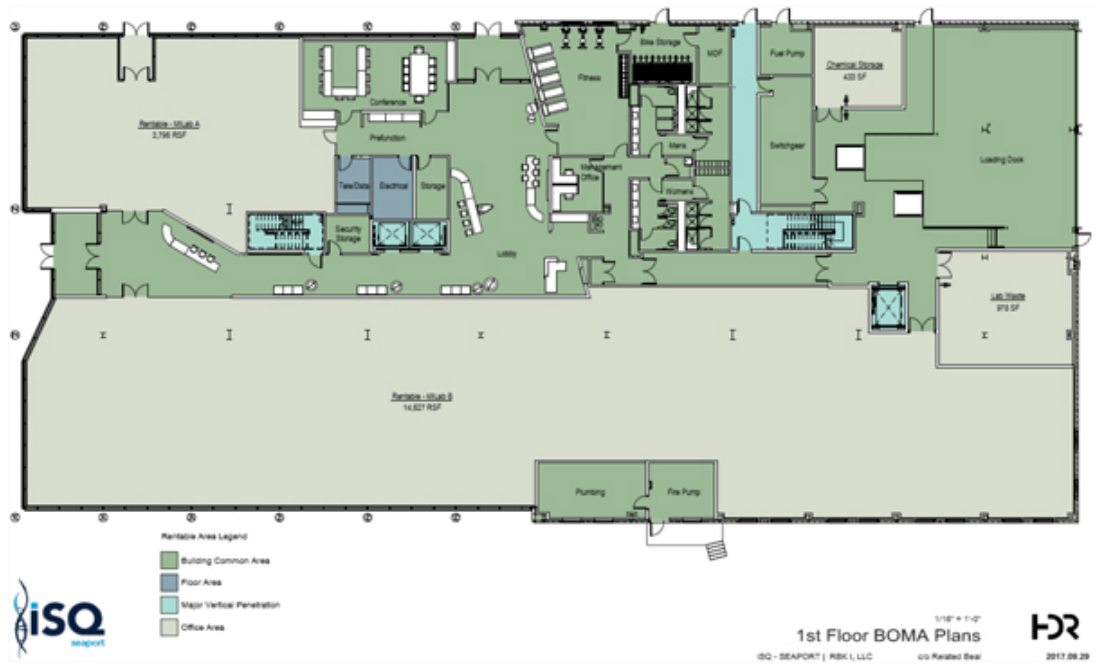
Landlord desires to maintain high standards of environmental comfort and convenience for the Tenants of Building. It will be appreciated if any undesirable conditions, lack of courtesy or attention are reported directly to the management.

EXHIBIT 6
CURRENT SHARED CONFERENCE FACILITIES RULES AND REGULATIONS

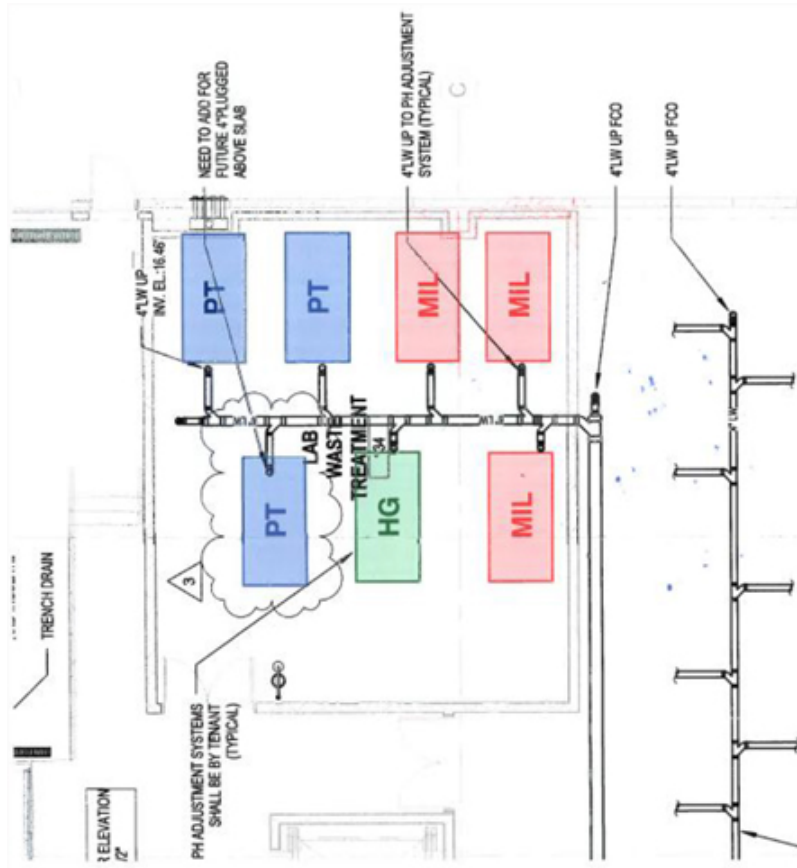
1. Reservations for the conference facilities must be scheduled at least two (2) hours in advance via the Building's work order system (e.g., Angus Work Order System). Reservations will be scheduled on a first-come, first-served basis.
2. Projector available upon request, subject to availability.
3. The conference facilities must be left clean after each use. Trash and recyclable items must be placed in the appropriate trash container/ recycle bin.
4. Tenant is responsible to push the chairs into the table after each use.
5. Tenant is responsible to erase any white board or other media after each use.
6. Tenant is responsible to turn the lights off after each use.
7. No items may be stored in the conference facilities.
8. Landlord reserves the right to amend, revise or modify these Rules and Regulations from time-to-time.

Landlord desires to maintain high standards of comfort and convenience for the Tenants of Building. It will be appreciated if any undesirable conditions, lack of courtesy or attention are reported directly to the management.

EXHIBIT 6-1
COMMON LABORATORY FACILITIES and SHARED CONFERENCE FACILITIES



(Distributions/allocations below relate to Tenant only; references to other tenant parties are not applicable)



(Distributions/allocations below relate to Tenant only; references to other tenant parties are not applicable)

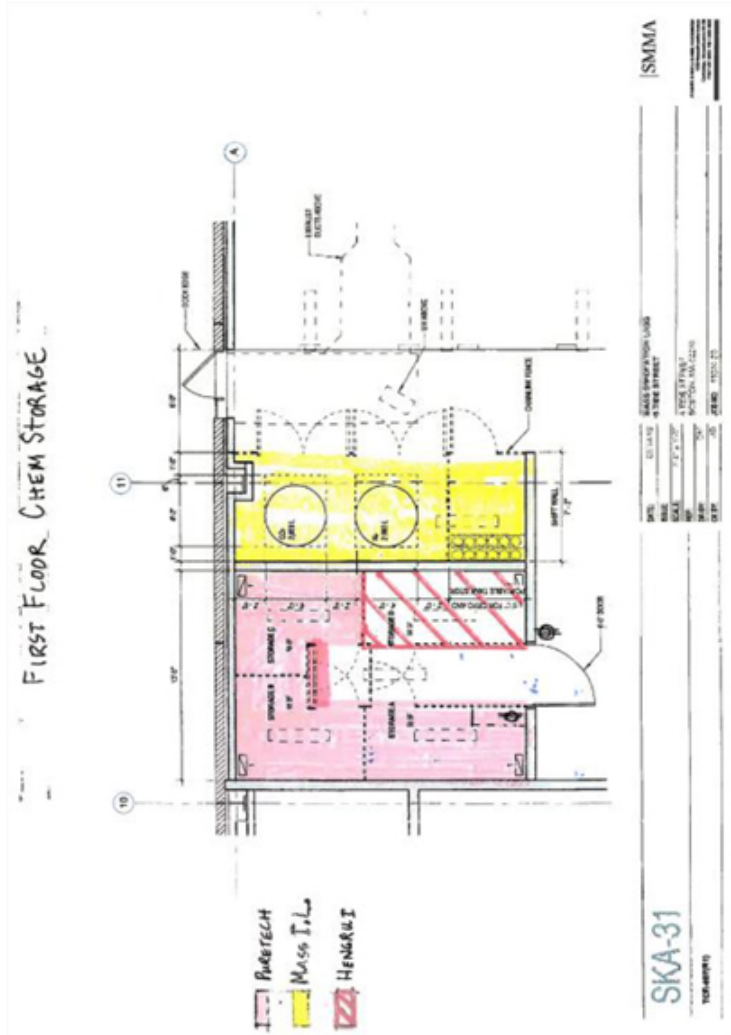


EXHIBIT 7
NON-DISCRIMINATION AND EQUAL OPPORTUNITY COVENANTS and EMPLOYMENT OF BOSTON RESIDENTS

NON-DISCRIMINATION AND EQUAL OPPORTUNITY COVENANTS
(Section 16.1 of EDIC Lease)

With respect to its exercise of all rights and privileges granted herein, Tenant agrees that Tenant, its successors in interest, subtenants, licensees, managers, operators and assigns shall:

(a) Not discriminate against any person, employee, or applicant for employment because of that person's membership in any legally protected class, including, but not limited to their race, color, gender, religion, creed, national origin, ancestry, age being greater than forty years, sex, sexual orientation, disability, genetic information, or Vietnam-era veteran status in the use of the Premises, including the hiring and discharging of employees, the provision or use of services, the selection of suppliers and contractors, in the subleasing or refusing to sublease any portion of the Premises or providing or refusing to provide any services or use of any facility. In addition, Tenant, its successors in interest, Subtenants, licensees, managers, operators, and assigns shall not discriminate against any person, employee, or applicant for employment who is a member of, or applies to perform service in, or has an obligation to perform service in a uniformed military service of the United States, including the National Guard, on the basis of that membership, application or obligation.

(b) Conspicuously post notices to employees and prospective employees setting forth the Fair Employee Practices Law of the Commonwealth of Massachusetts.

(c) Comply with all applicable federal, state and local laws, rules, regulations and orders and Landlord rules and orders (provided that, with respect to Landlord rules and orders, copies of such rules and orders have been provided to Tenant) pertaining to Civil Rights and Equal Opportunity, including but not limited to Executive Orders 11246 and 11478 as amended, unless otherwise exempt therefrom.

Noncompliance

Non-compliance by Tenant, any subtenant, their respective successors in interest and assigns, or any of their respective agents, employees, licensees or operators, with this Exhibit shall constitute a default under this Lease, provided that Landlord has notified Tenant of such noncompliance in writing and Tenant has failed to cure such non-compliance within twenty (20) days after Tenant's receipt of Landlord's notice. Tenant shall indemnify and hold harmless Landlord from any claims and demands of third persons resulting from non-compliance with any of the provisions of this Exhibit. This Exhibit shall survive the expiration or earlier termination of this Lease.

EMPLOYMENT OF BOSTON RESIDENTS
(Section 18.36 and Exhibit O from EDIC Lease)

Tenant understands that the Premises are being leased to Tenant as part of an overall program to provide jobs for unemployed and underemployed persons in the City, all within the intent and purposes of Chapter 1097 of the Acts of 1971, as amended, and of the Economic Development Plan for the RFMP. To that end, Tenant agrees to include in any Sublease of the Premises provisions substantially the same as those entitled "Employment of Local Labor" set forth in **Exhibit O** hereto and further agrees to be bound by such provisions as though set forth in this section.

Employment of Boston Residents. Tenant understands that the Premises are being leased to Tenant, in part, as part of an overall program to provide jobs for unemployed and underemployed persons in the City of Boston (the "City") all within the intent and purposes of Chapter 1097 of the Acts of 1971, as amended (the "Act") and of the Economic Development Plan (the "EDP"), approved by the Boston City Council and Mayor of Boston under an Order effective July 6, 1976 and amended by Order effective March 10, 1980. In hiring for new positions and vacancies within its workforce for its business operations at the Premises, Tenant agrees to use commercially reasonable efforts to fill at least fifty percent (50%) of these positions with residents of the City. Tenant shall also use commercially reasonable efforts to fill at least twenty-five percent (25%) of new and vacant positions with minorities, and at least ten percent

(10%) of such positions with women. Tenant agrees to use commercially reasonable efforts (i) to offer to the fullest practicable extent employment to qualified and trained persons from among graduates of any training program of the City and (ii) to cooperate with Landlord and with Landlord's designee(s), in their efforts to obtain employment for qualified residents of the City. For purposes hereof, any one person may satisfy more than one of the above categories. For purposes hereof, jobs shall include all job openings, whether full-time or created by attrition or expansion. Tenant shall obligate its sublessees and assignees to comply with this Exhibit O. Reference herein to "employees" shall include, but not be limited to, administration and supervisory personnel.

For the purposes of this Exhibit O, in hiring new employees for employment at the Premises, "commercially reasonable efforts" shall mean:

- (a) Tenant advertises in a daily Boston newspaper (whether online (such as indeed.com or in print) which advertisement encourages minorities, women and City residents to apply for the open position;
- (b) Tenant advertises in at least two weekly or bi-weekly newspapers which circulate in Boston or one or more of its neighborhoods (newspapers to be chosen by Tenant) which advertisement encourages minorities, women and City residents to apply for the open position;
- (c) Tenant keeps on file all advertisements, resumes and responses to its advertisements and other recruitment efforts and provides Landlord with copies of same upon request by Landlord; and
- (d) Whenever Tenant operates on-the-job training programs, Tenant agrees to use commercially reasonable efforts to include in these programs unskilled or semi-skilled City residents (and to recruit women and minorities for these programs) who, in the Tenant's judgment, can be expected to benefit from this training and perform the jobs in question.

2. Hiring Procedures. Tenant shall notify Landlord or Landlord's designee of each position that is to be filled at the Premises by Tenant during the Term of this Lease. However, nothing contained herein shall be construed as requiring the Tenant to hire any employee who does not meet Tenant's standards and qualifications for employment.

3. Tenant's Records Available to Landlord. Tenant shall submit and shall cause Tenant's Subtenants to submit annual employment reports to Landlord or Landlord's designee, such report to be substantially in the form designated from time to time by Landlord, showing the increase or decrease in total employment since the last reporting period and detailing the number of City residents, women, and minorities who comprise Tenant's or Tenant's Subtenants' workforce at the Premises, and a schedule of the positions that have been filled (including residence of employees and salaries) during the previous year and a projection of the availability of future jobs and salaries to be created during the succeeding reporting period. Tenant shall make available for Landlord's inspection at reasonable times all records of Tenant reasonably necessary to review and ascertain compliance with the provisions of this Exhibit O.

4. Employment of Contractors and Sub-Contractors. Whenever possible, Tenant shall engage independent contractors and sub-contractors who are based in and whose employees are primarily City residents. Tenant shall also pursue bids from minority and women owned and operated enterprises (M/WBEs). Any labor or other agreements, contracts or arrangements to the contrary notwithstanding, Tenant shall pay at least such minimum wages as required by law.

5. Qualified Employees. Nothing contained herein shall be construed as requiring Tenant, its contractors, or sub-contractors, assignees or subtenants to hire any employee who does not meet their standards and qualifications for employment.

The provisions of this Exhibit O shall be subject to all applicable local, state and federal laws now or hereafter in effect.

RECORDING REQUESTED BY
AND WHEN RECORDED MAIL TO:

NON-DISTURBANCE AND ATTORNMENT AGREEMENT

For use with Commercial Leases

THIS NON-DISTURBANCE AND ATTORNMENT AGREEMENT (“**Agreement**”) is made to be effective as of the _____ day of _____, 2018, between **ECONOMIC DEVELOPMENT AND INDUSTRIAL CORPORATION OF BOSTON, d/b/a BOSTON PLANNING AND DEVELOPMENT AGENCY**, and its successors and assigns (“**Ground Lessor**”), and **PURETECH HEALTH LLC (“Subtenant”)**.

BACKGROUND:

- (a) RBK I Tenant LLC (the “**Tenant**”), is the lessee under the following lease with Ground Lessor: that certain Ground Lease between Tenant and Ground Lessor, dated as of November 21, 2017 (the “**Lease**”), relating to the property described in **Exhibit A** attached to this Agreement and by this reference made a part of this Agreement (the “**Property**”). Ground Lessor has agreed to lease the Property to Tenant for the Term, as described in the Lease, with one option to renew for an Extended Term. Tenant has agreed to, *inter alia*, make Rent payments and Tenant Improvements, according to the provisions of the Lease.
- (b) Subtenant is the sublessee under the following sublease with Tenant: that certain Sublease between Subtenant and Tenant, dated as of _____, 2018 (the “**Sublease**”), relating to the Property.

AGREEMENT:

For and in consideration of the mutual covenants contained in this Agreement, the sum of Ten Dollars (\$10.00) and other good and valuable considerations, the receipt and sufficiency of which are acknowledged, and notwithstanding anything in the Lease to the contrary, the parties agree as follows:

- 1. **Definitions.** All capitalized terms used but not otherwise defined herein shall have the meaning ascribed thereto in the Ground Lease.

2. **Nondisturbance.** If Ground Lessor terminates the Lease and takes possession of the Property, so long as no default of Subtenant exists after the expiration of any notice and cure period under the Sublease, then Ground Lessor agrees as follows:
 - a. Ground Lessor will not terminate, impair or disturb the possession of Subtenant.
 - b. The Sublease will continue in full force and effect as a direct Sublease between Ground Lessor and Subtenant, upon and subject to all of the terms, covenants and conditions of the Sublease, for the balance of the term of the Sublease.
3. **Attornment.** If Ground Lessor takes possession of the Property by termination of the Lease with Tenant or otherwise, then Subtenant agrees as follows:
 - a. Subtenant will perform and observe its obligations under the Sublease.
 - b. Subtenant will attorn to and recognize the Ground Lessor under the Sublease for the remainder of the term of the Sublease, such attornment to be automatic and self-operative.
 - c. Subtenant will execute and deliver upon request of Ground Lessor an appropriate agreement of attornment to Ground Lessor.
4. **Protection of Ground Lessor.** Subtenant agrees that Ground Lessor, upon taking possession of the Property after termination of the Lease, will not be liable for, subject to or bound by any of the following:
 - a. claims, offsets or defenses which Subtenant might have against Ground Lessor;
 - b. acts or omissions of Ground Lessor;
 - c. rent or additional rent which Subtenant might have paid for more than the current month;
 - d. any security deposit or other prepaid charge paid to Ground Lessor;
 - e. construction or completion of any improvements for Subtenant's use and occupancy; provided, however, that (A) if Ground Lessor elects not to complete any portion of the Tenant Improvement Work (as that term is defined in the Sublease) or fund any undisbursed portion of the Improvement Allowance (as that term is defined in the Sublease), then Subtenant may offset from any rent due under the Sublease Subtenant's actual costs (documented through paid third party invoices (with satisfactory evidence of payment and other supporting material)) in completing the Tenant Improvement Work up to the amount of the Improvement Allowance not paid to Subtenant, and (B) if Ground Lessor elects not to complete any portion of the Base Building Shell Work (as that term is defined in the Sublease), then Subtenant may terminate the Sublease upon at least thirty (30) days prior written notice to Ground Lessor; or
 - f. warranties of any nature whatsoever, including any warranties respecting use, compliance with zoning, hazardous wastes or environmental laws, Ground Lessor's title, Ground Lessor's authority, habitability, fitness for purpose or possession; or amendments or modifications of the Sublease made without its written consent.
5. **Ground Lessor Exculpation.** Subtenant will look solely to Ground Lessor's interest in the Property for the payment and discharge of any obligation or liability imposed upon Ground Lessor under the Lease.
6. **Estoppel.** To the best of Subtenant's knowledge, there does not exist any default, claim, controversy or dispute under the Lease. Subtenant has not commenced any action against Tenant nor sent or received any notice to terminate the Sublease.

7. **Notice to Ground Lessor.** Subtenant agrees that it will deliver to Ground Lessor a copy of all notices of default or termination received by it under the terms of the Sublease.
8. **Invalidity.** If any portion of this Agreement is held invalid or inoperative, then all of the remaining portions will remain in full force and effect, and, so far as is reasonable and possible, effect will be given to the intent manifested by the portion or portions held to be invalid or inoperative.
9. **Governing Law.** This Agreement will be governed by and construed in accordance with the laws of the State where the Property is located.
10. **Notices.**
 - (a) All notices, demands and other communications (“Notices”) under or concerning this Agreement must be in writing. Each Notice shall be addressed to the intended recipient at its address set forth in this Agreement, and will be deemed given on the earliest to occur of (1) the date when the Notice is received by the addressee; (2) the first Business Day after the Notice is delivered to a recognized overnight courier service, with arrangements made for payment of charges for next Business Day delivery; or (3) the third Business Day after the Notice is deposited in the United States mail with postage prepaid, certified mail, return receipt requested. The term “Business Day” means any day other than a Saturday, a Sunday or any other day on which Ground Lessor is not open for business.
 - (b) Any party to this Agreement may change the address to which Notices intended for it are to be directed by means of Notice given to the other party in accordance with this Section. Each party agrees that it will not refuse or reject delivery of any Notice given in accordance with this Section, that it will acknowledge, in writing, the receipt of any Notice upon request by the other party and that any Notice rejected or refused by it will be deemed for purposes of this Section to have been received by the rejecting party on the date so refused or rejected, as conclusively established by the records of the U.S. Postal Service or the courier service.

Any Notice, if given to Ground Lessor, must be addressed as follows:

Economic Development and Industrial Corporation of Boston
One City Hall Square, 9th Floor
Boston, MA 02201-1007
Attention: Director

With a copy to:

Economic Development and Industrial Corporation of Boston
One City Hall Square, 9th Floor

Boston, MA 02201-1007 Attention:
General Counsel

Any Notice, if given to Subtenant, must be addressed as follows:

Prior to Term Commencement Date (as defined in the Sublease):
501 Boylston Street, Suite 6102
Boston, MA 02116
Attn: Stephen M. Muniz

After the Term Commencement Date (as defined in the Sublease):

Innovation Square
6 Tide Street, Suite 300 and Suite 400
Boston, MA 02110-2412
Attn: Stephen M. Muniz

With a copy to:

Anderson & Kreiger LLP
50 Milk Street, 21st floor
Boston, MA 02109
Attn: David L. Wiener, Esq.

11. **Successors and Assigns.** This Agreement will be binding upon and inure to the benefit of the parties to this Agreement and their respective heirs, legal representatives, successors, successors-in-title and assigns.
12. **Counterparts.** This Agreement may be executed in any number of counterparts, all of which when taken together will constitute one and the same instrument.

[Remainder of page intentionally left blank; signatures follow]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

GROUND LESSOR:

ECONOMIC DEVELOPMENT AND
INDUSTRIAL CORPORATION OF BOSTON

By: _____

Name: Brian P. Golden

Title: Director

SUBTENANT:

PURETECH HEALTH LLC

By: _____

Name:

Title:

EDIC ACKNOWLEDGMENT

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF SUFFOLK

On _____ before me, _____, Notary Public, personally appeared Brian P. Golden, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument, which was _____, and acknowledged to me that he executed the same in his authorized capacity voluntarily and for its stated purpose.

WITNESS my hand and official seal.

Signature of Notary Public

(Seal)

SUBTENANT ACKNOWLEDGMENT

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF _____

On _____ before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument, which was _____, and acknowledged to me that he/she executed the same in his/her authorized capacity voluntarily and for its stated purpose.

WITNESS my hand and official seal,

Signature of Notary Public

(Seal)

EXHIBIT A TO NON-DISTURBANCE AGREEMENT
DESCRIPTION OF THE LAND

EXHIBIT 9
FORM OF LETTER OF CREDIT

IRREVOCABLE STANDBY LETTER OF CREDIT NO.

DATE:

BENEFICIARY:

RBK I TENANT, LLC
c/o Related Beal
177 Milk Street, Boston, Massachusetts 02109

APPLICANT:

AS "TENANT"

AMOUNT: US \$ _____ (_____ AND 00/100 U.S. DOLLARS)

EXPIRATION DATE: _____

LOCATION: AT OUR COUNTERS IN BOSTON, MASSACHUSETTS

DEAR SIR/MADAM:

WE HEREBY ESTABLISH OUR IRREVOCABLE STANDBY LETTER OF CREDIT NO. _____ IN YOUR FAVOR AVAILABLE BY YOUR DRAFT DRAWN ON US AT SIGHT IN THE FORM OF EXHIBIT "B" ATTACHED AND ACCOMPANIED BY THE FOLLOWING DOCUMENTS:

1. THE ORIGINAL OF THIS LETTER OF CREDIT AND ALL AMENDMENT(S), IF ANY.
2. A DATED CERTIFICATION FROM THE BENEFICIARY SIGNED BY AN AUTHORIZED OFFICER OR AGENT, FOLLOWED BY ITS DESIGNATED TITLE, STATING THE FOLLOWING:

(A) "THE AMOUNT REPRESENTS FUNDS DUE AND OWING TO US FROM APPLICANT PURSUANT TO THAT CERTAIN LEASE BY AND BETWEEN BENEFICIARY, AS LANDLORD, AND APPLICANT, AS TENANT."

OR

(B) "WE HEREBY CERTIFY THAT WE HAVE RECEIVED NOTICE FROM _____ BANK THAT LETTER OF CREDIT NO. _____ WILL NOT BE RENEWED, AND THAT WE HAVE NOT RECEIVED A REPLACEMENT OF THIS LETTER OF CREDIT FROM APPLICANT SATISFACTORY TO US AT LEAST THIRTY (30) DAYS PRIOR TO THE EXPIRATION DATE OF THIS LETTER OF CREDIT."

PAGE 1 OF 3

IRREVOCABLE STANDBY LETTER OF CREDIT NO. _____
DATED

THE LEASE AGREEMENT MENTIONED ABOVE IS FOR IDENTIFICATION PURPOSES ONLY AND IT IS NOT INTENDED THAT SAID LEASE AGREEMENT BE INCORPORATED HEREIN OR FORM PART OF THIS LETTER OF CREDIT.

OUR OBLIGATION UNDER THIS CREDIT SHALL NOT BE AFFECTED BY ANY CIRCUMSTANCES, CLAIM OR DEFENSE, REAL OR PERSONAL, OF ANY PARTY AS TO THE ENFORCEABILITY OF THE LEASE BETWEEN YOU AND TENANT, IT BEING UNDERSTOOD THAT OUR OBLIGATION SHALL BE THAT OF A PRIMARY OBLIGOR AND NOT THAT OF A SURETY, GUARANTOR OR ACCOMMODATION MAKER. IF YOU DELIVER THE WRITTEN CERTIFICATE REFERENCED ABOVE TO US, (I) WE SHALL HAVE NO OBLIGATION TO DETERMINE WHETHER ANY OF THE STATEMENTS THEREIN ARE TRUE, (II) OUR OBLIGATIONS HEREUNDER SHALL NOT BE AFFECTED IN ANY MANNER WHATSOEVER IF THE STATEMENTS MADE IN SUCH CERTIFICATE ARE UNTRUE IN WHOLE OR IN PART, AND (III) OUR OBLIGATIONS HEREUNDER SHALL NOT BE AFFECTED IN ANY MANNER WHATSOEVER IF TENANT DELIVERS INSTRUCTIONS OR CORRESPONDENCE TO WHICH EITHER (A) DENIES THE TRUTH OF THE STATEMENT SET FORTH IN THE CERTIFICATE REFERRED TO ABOVE, OR (B) INSTRUCTS US NOT TO PAY BENEFICIARY ON THIS CREDIT FOR ANY REASON WHATSOEVER.

PARTIAL AND MULTIPLE DRAWS ARE ALLOWED. EXCEPT AS EXPRESSLY SET FORTH HEREIN, THIS LETTER OF CREDIT MUST ACCOMPANY ANY DRAWINGS HEREUNDER FOR ENDORSEMENT OF THE DRAWING AMOUNT AND WILL BE RETURNED TO THE BENEFICIARY UNLESS IT IS FULLY UTILIZED.

DRAFT(S) AND DOCUMENTS MUST INDICATE THE NUMBER AND DATE OF THIS LETTER OF CREDIT.

THIS LETTER OF CREDIT SHALL BE AUTOMATICALLY EXTENDED FOR AN ADDITIONAL PERIOD OF ONE YEAR, WITHOUT AMENDMENT, FROM THE PRESENT OR EACH FUTURE EXPIRATION DATE UNLESS AT LEAST SIXTY (60) DAYS PRIOR TO THE THEN CURRENT EXPIRATION DATE WE NOTIFY YOU BY REGISTERED MAIL/OVERNIGHT COURIER SERVICE AT THE ABOVE ADDRESSES THAT THIS LETTER OF CREDIT WILL NOT BE EXTENDED BEYOND THE CURRENT EXPIRATION DATE. IN NO EVENT SHALL THIS LETTER OF CREDIT BE AUTOMATICALLY EXTENDED BEYOND SIX (6) MONTHS BEYOND LEASE EXPIRATION.

THIS LETTER OF CREDIT MAY BE TRANSFERRED WITHOUT COST TO THE BENEFICIARY, ONE OR MORE TIMES BUT IN EACH INSTANCE TO A SINGLE BENEFICIARY AND ONLY IN THE FULL AMOUNT AVAILABLE TO BE DRAWN UNDER THE LETTER OF CREDIT AT THE TIME OF THE TRANSFER AND ONLY BY THE ISSUING BANK UPON OUR RECEIPT OF THE ATTACHED "EXHIBIT A" DULY COMPLETED AND EXECUTED BY THE BENEFICIARY AND ACCOMPANIED BY THE ORIGINAL LETTER OF CREDIT AND ALL AMENDMENTS, IF ANY.

ALL DEMANDS FOR PAYMENT SHALL BE MADE BY PRESENTATION OF THE ORIGINAL APPROPRIATE DOCUMENTS PRIOR TO 10:00 A.M. E.S.T. TIME, ON A BUSINESS DAY AT OUR OFFICE (THE "BANK'S OFFICE") AT: _____

BOSTON, MASSACHUSETTS _____, ATTENTION: _____ OR BY FACSIMILE TRANSMISSION AT: (____) ____-____; AND SIMULTANEOUSLY UNDER TELEPHONE ADVICE TO: (____) ____-____, ATTENTION: _____ WITH ORIGINALS TO FOLLOW BY OVERNIGHT COURIER SERVICE.

PAYMENT AGAINST CONFORMING PRESENTATIONS HEREUNDER SHALL BE MADE BY BANK DURING NORMAL BUSINESS HOURS OF THE BANK'S OFFICE WITHIN ONE (1) BUSINESS DAY AFTER PRESENTATION.

WE HEREBY AGREE WITH THE DRAWERS, ENDORSERS AND BONAFIDE HOLDERS THAT THE DRAFTS DRAWN UNDER AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS LETTER OF CREDIT SHALL BE DULY HONORED UPON PRESENTATION TO THE DRAWEE, IF NEGOTIATED ON OR BEFORE THE EXPIRATION DATE OF THIS CREDIT.

PAGE 2 OF 3

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AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

PAGE 3 OF 3

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EXHIBIT "A"

DATE:

TO:

RE: STANDBY LETTER OF CREDIT
NO. ISSUED BY
L/C AMOUNT:

ATTN:

LADIES AND GENTLEMEN:

FOR VALUE RECEIVED, THE UNDERSIGNED BENEFICIARY HEREBY IRREVOCABLY TRANSFERS TO:

(NAME OF TRANSFEREE)
(ADDRESS)

ALL RIGHTS OF THE UNDERSIGNED BENEFICIARY TO DRAW UNDER THE ABOVE LETTER OF CREDIT UP TO ITS AVAILABLE AMOUNT AS SHOWN ABOVE AS OF THE DATE OF THIS TRANSFER.

BY THIS TRANSFER, ALL RIGHTS OF THE UNDERSIGNED BENEFICIARY IN SUCH LETTER OF CREDIT ARE TRANSFERRED TO THE TRANSFEREE. TRANSFEREE SHALL HAVE THE SOLE RIGHTS AS BENEFICIARY THEREOF, INCLUDING SOLE RIGHTS RELATING TO ANY AMENDMENTS, WHETHER INCREASES OR EXTENSIONS OR OTHER AMENDMENTS, AND WHETHER NOW EXISTING OR HEREAFTER MADE. ALL AMENDMENTS ARE TO BE ADVISED DIRECT TO THE TRANSFEREE WITHOUT NECESSITY OF ANY CONSENT OF OR NOTICE TO THE UNDERSIGNED BENEFICIARY.

THE ORIGINAL OF SUCH LETTER OF CREDIT IS RETURNED HERewith, AND WE ASK YOU TO ENDORSE THE TRANSFER ON THE REVERSE THEREOF, AND FORWARD IT DIRECTLY TO THE TRANSFEREE WITH YOUR CUSTOMARY NOTICE OF TRANSFER.

SINCERELY,

(BENEFICIARY'S NAME)

SIGNATURE OF BENEFICIARY

SIGNATURE AUTHENTICATED

(NAME OF BANK)

AUTHORIZED SIGNATURE

EXHIBIT "B"

DATE: _____

REF. NO. _____

AT SIGHT OF THIS DRAFT

PAY TO THE ORDER OF _____ US\$ _____

US DOLLARS _____

DRAWN UNDER _____ BANK, BOSTON, MASSACHUSETTS, STANDBY LETTER OF CREDIT NUMBER NO. _____ DATED _____

TO: _____ BANK

_____, MA _____

(BENEFICIARY'S NAME)

Authorized Signature

EXHIBIT 10-2
BASE BUILDING TI MATRIX

Innovation Square
Base Building and T.I. Matrix
3/6/18



<i>Description:</i>	<i>Responsibility Allocation</i>	
	<i>Landlord Base Building</i>	<i>Tenant Improvement</i>
Heating, Ventilation, Air Conditioning		
High Efficiency Chilled Water Plant Sized for Ashrae 1%	X	
Cooling Tower supported by Emergency Generator	X	
Condenser Water Pipe Risers	X	
Central High Efficiency condensing hot water, gas fired, boiler plant	X	
Hot Water Pipe Risers	X	
Vertical Supply Air Duct Distribution	X	
Horizontal Supply Air Duct Distribution		X
Make Up Air Volume will provide 2 CFM per SF of once thru air to the lab portion of the Tenant's Premises and Office Portion of the Tenant Premises to be served by either heat pumps or fan coil units with code required make up air (Lab/Office Split of the premises is anticipated to be 60% Lab/40% Office).	X	
Hot water piping within Tenant Premises		X
Building Management System (BMS) for common areas and Landlord Infrastructure, which includes Rooftop MUA, General Exhaust, Heat Pumps and Condenser Water Loop that support common areas.	X	
Tenant BMS (compatible with Landlord's system) within Tenant Premises and Tenant Infrastructure, which includes but is not limited to Dedicated MUA Units, Dedicated Boiler, hot water/chilled water pumps, Server Room HVAC if required, etc.)		X
Supply air duct distribution system including but not limited to; heat pumps, fan coils, VAV boxes, equipment connections, insulation, air terminals, dampers, hangers, etc. within Tenant Premises		X
Process Condenser water system	X	
Exhaust air vertical chaseways	X	
General exhaust fans (EAHU's) and heat recovery system*		X
Exhaust air vertical duct with connection on each floor *		X
Shaft space for (2) future 14" round lab exhausts per floor	X	
Future dedicated 14" lab exhaust vertical/horizontal in shaft and on floor		X
Restroom exhaust for restrooms within Tenant Premises	X	
Ventilation system for Base Building electrical closets	X	
Ventilation system for electrical closets within Tenant Premises		X
Sound attenuation for all rooftop base building equipment to comply with City/Town Noise Ordinance as needed	X	
Merrimack Pharmaceuticals	X	
Rooftop Mechanical Penthouse Space (Based on Tenant Proportionate Share of Building) for Tenant's Equipment.	X	
Tenant Server Room HVAC (if needed)		X
Plumbing		
Domestic water service with backflow prevention and Base Building risers	X	
Domestic water distribution within Tenant Premises		X
Tenant Metering and sub-metering at Tenant connection		X
Sanitary waste and vent service risers	X	
Lab waste vertical chase and sleeve	X	
pH Neutralization system, including but not limited to the tank system, individual test ports, monitoring alarms, etc.*		X
Waste piping within the Premises and from Premises to Common pH Waste room on 1st floor		X
Non potable Hot water generation for Tenant Use		X
Lab air compressor system for Tenant Use		X
Compressed air pipe distribution in Tenant Premises for specific points of use		X
Lab vacuum system for Tenant Use		X
Lab vacuum pipe distribution in Tenant Premises for specific points of use		X
Tepid water generator		X
Tepid water pipe distribution in Tenant Premises		X
RODI water generator and water pipe distribution in Tenant Premises for specific points of use		X
Manifolds, piping, and other requirements including cylinders, not specifically mentioned above		X
Core Restroom plumbing fixtures compliant with accessibility	X	
Wall Hydrants in core areas as required by code.	X	
Storm Drainage Systems	X	
Hot Water Generation and Distribution for Core Restrooms	X	

<i>Description:</i>	<i>Responsibility Allocation</i>	
	<i>Landlord Base Building</i>	<i>Tenant Improvement</i>
Electrical		
Electrical utility service to elevated switchgear on ground floor main electrical vault	X	
480/277 3 Phase, 4 Wire Bus Duct Allocation of bus power for Tenant use (excluding power for base building systems): 10 watts/ per RSF of Lab and 6 watts/RSF of Office	X	
Double Ended Switchboards Located in Main Electrical Room	X	
Generator for Tenant Use including sound attenuation sized for 5 Watts per square foot of Lab RSF	X	
Standby power distribution within Tenant Premises		X
Lighting and power distribution for Tenant Premises		X
Energenix Sub-Meter for disconnect (if not a direct utility meter)	X	
Common area life safety emergency lighting/signage	X	
Tenant Premises life safety emergency lighting/signage		X
Tenant panels and transformers		X
All distribution/tie-in's from generators to tenant premises*		X
Natural Gas		
Natural gas service to building and piping to base building equipment	X	
Natural gas service and pressure regulator for Tenant equipment stubbed to ground floor	X	
Natural gas piping from Tenant meter to Tenant Premises or Tenant equipment areas		X
Natural gas pipe distribution within Tenant Premises		X
Natural gas pressure regulator vent pipe riser from valve location through roof as needed		X
Fire Protection		
Fire Service entrance including fire department connection, alarm valve, and flow protection	X	
Primary distribution of wet sprinkler system to Tenant Premises	X	
All run outs, drop heads, and related equipment within Tenant Premises		X
Modification of sprinkler piping and head locations to suite Tenant layout and hazard index		X
Fire extinguisher cabinets at common areas	X	
Fire extinguisher cabinets in Tenant Premises		X
Base Building fire alarm system with devices in common areas	X	
Fire alarm sub panels and devices for Tenant Premises with integration into Base Building system		X
Alteration to fire alarm system to facilitate Tenant program, subject to Landlord review and approval		X
Egress Stair Sprinkler Distribution and Sprinkler Heads	X	
Common Areas		
Accessible Main Entrance with Vestibule	X	
Main Common Lobby Area	X	
Upper Level elevator lobbies on floor with multiple tenants	X	
Common Area restrooms, ADA compliant, finished to a first class standard.	X	
Janitors closets in common areas, finished	X	
Electrical closets in common areas	X	
IDF connected to secondary demarcation room, finished	X	
Primary demarcation room	X	
Loading Dock area	X	
Doors, frames, and hardware at common areas	X	
Two (2) hydraulic passenger elevators with a 3,500 lb. capacity	X	
One (1) hydraulic freight elevator with a 5,000 lb. capacity linking loading dock with Tenant floors and rooftop Mech PH	X	
Building Common Area Signage—Interior and Exterior	X	
Bike storage located on 1st floor of the building	X	
Fitness Center located on 1st floor of the building	X	
Conference Center located on 1st floor of the building	X	
Space is provided for Tenant pH Neutralization systems on the first floor of the building.	X	
Tenant pH Neutralization system and all associated equipment, piping, test ports, tie-in's.		X

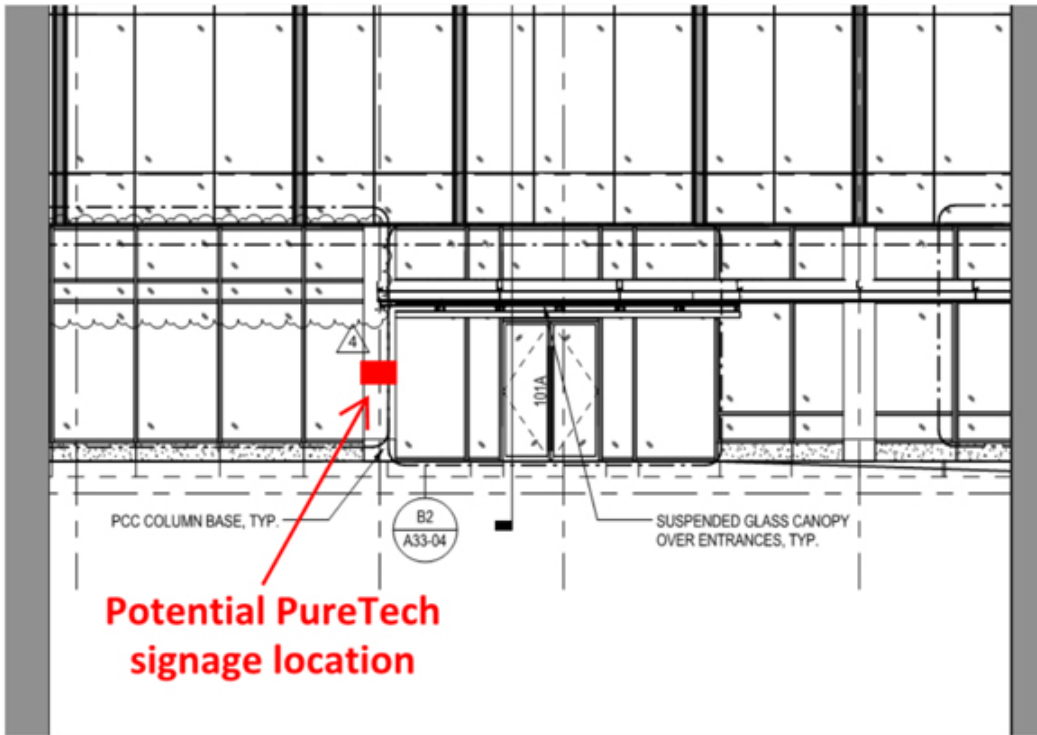
<i>Description:</i>	<i>Responsibility Allocation</i>	
	<i>Landlord Base Building</i>	<i>Tenant Improvement</i>
Tenant Areas		
Floor skimming to accept carpet/VCT/sheet vinyl/epoxy		X
Tenant signage to be approved by Landlord such approval not to be unreasonably withheld. Landlord to cooperate with Tenant in obtaining building signage		X
Inside face of exterior walls - slab-to-slab insulation with vapor barrier.	X	
Finishes at inside face of exterior walls, will be provided as base building but construction will be coordinated with interior fit-out (i.e. the interior face of the exterior wall will be finished in conjunction with any required MEP or other services and devices that would need to be in the wall)		X
Electrical closets within Tenant Premises		X
Tel/data rooms for interconnection with Tenant tel/data		X
Tenant kitchen areas		X
Partitions, ceilings, flooring, painting, finishes, doors, frames, hardware, millwork, casework, etc.		X
Fixed or moveable casework		X
Laboratory Equipment including but not limited to biosafety cabinets, autoclaves, glass washers, incubators, freezers, etc.		X
Chemical Fume Hoods		X
Shaft enclosures for Base Building systems' risers	X	
An area for two (2) direct exhaust risers per floor. The exhaust shafts are common area but accessible to each floor.	X	
Furnish and install Building standard blinds for all exterior windows		X
Interior Window Treatments		X
Walls finished and prepared to receive Tenant finish on Tenant side of Base Building Rooms and shafts.	X	
Telephone / Data		
Underground local exchange carrier service to primary demarcation room at a to be coordinated with Tenant location.	X	
Service from primary demarcation room to secondary demarcation room	X	
Intermediate distribution frame rooms in Tenant Premises		X
Pathways from secondary demarcation room to intermediate distribution frame rooms, where applicable		X
Tenant tel/data rooms		X
Pathways from secondary demarcation room directly into Tenant tel/data rooms		X
Tel/data cabling from secondary demarcation room to intermediate distribution frame rooms		X
Tel/data cabling from secondary demarcation room to Tenant tel/data rooms		X
Fiber optic service for Tenant use		X
Tel/data infrastructure including but not limited to servers, computers, phone systems, switches, routers, MUX panels, equipment racks, ladder racks, etc.		X
Provisioning of circuits and service from service providers		X
Audio visual systems and support		X
Station cabling from Tenant tel/data room to all Tenant locations, within the suite and exterior to the suite, if needed		X
Riser Closets and Cable Sleeves through Floor Slabs	X	
Structure		
Steel Framed Slab on Grade Structure with Moment Frame and Composite Steel and Sealed concrete floors and roofs fireproofed.	X	
Typical Load Capacity of 100 LBS per square foot. 2 Structural Bays shall be upgraded to 150 lbs. per Sq. Ft. and 2 Structural Bays shall be upgraded to 125 lbs. per Sq. Ft. and Penthouse Floor Structure shall be 150 lbs. per square foot.	X	
Structural enhancements for specific tenant load requirements subject to Landlord review and approval.		X
Floor to floor heights of 15 ft.	X	
Utility risers for Tenant utilities, subject to Landlord review and approval		X
Capacity in structure to accommodate tenant dunnage and roof equipment.	X	
Dunnage at roof for base building equipment including grates or walk pads	X	
Dunnage at roof for tenant equipment including grates or walk pads.		X
Framed openings for base building supply air and general exhaust shafts.	X	
Framed openings for additional tenant shafts and risers (above Landlord Number)		X
21' Column Bays in predetermined Lab Areas	X	
Miscellaneous metal items such as brackets or supports and concrete housekeeping pads required for tenant-supplied equipment.		X

<u>Description:</u>	<u>Responsibility Allocation</u>	
	<u>Landlord Base Building</u>	<u>Tenant Improvement</u>
Roofing & Exterior		
EDPM Rubber Roofing System or similar	X	
Roof penetrations for Base Building equipment/systems	X	
Roof penetrations for Tenant equipment/systems		X
Walkway pads for Base Building equipment	X	
Walkway pads for Tenant equipment		X
Roofing alterations due to Tenant changes subject to Landlord review and approval		X
Building exterior consisting of Pre-cast Concrete and glass curtain/window wall	X	
Aluminum frames and insulated windows	X	
Main Building entrances	X	
Loading Dock doors	X	
Security		
Conduit for Card access at Building entries and elevators	X	
Tenant card access into or within Tenant Premises on separate Tenant installed and managed system		X
Tenant video camera coverage of Tenant Premises on separate Tenant installed and managed system		X
Landlord to provide Base Building card access system for all common entry doors and a video surveillance systems for all common areas	X	
Site Work		
Perimeter sidewalks, street curbs, miscellaneous site furnishings, landscaping, parking and exterior lighting	X	
Telephone service to main demarcation room from local exchange carrier	X	
Domestic sanitary sewer connection to street	X	
Roof storm drainage	X	
Eversource primary electrical service	X	
National Grid gas service	X	
Domestic water service to Building (BWSC)	X	
On site parking lot to include 84 spaces, provided to tenants based on their % share of the building at Market Rates. Tenant shall pay the cost of its parking directly.	X	
LEED Silver Certifiable Base Building (actual certification will be coordinated with Tenant Work)	X	
Fire Protection water service to Building	X	

* **HVAC: Manifolded general exhaust system including heat recovery and vertical ductwork from Tenant space to rooftop equipment; Electrical: power to ph neutralization systems, and panels for standby power at floor electrical closet; Plumbing: vent piping from ph neutralization room to roof; all to be purchased and installed by Landlord with the costs allocated to the Tenant based on their proportionate share of the building.**

EXHIBIT 11
TENANT'S SIGNAGE

Pursuant to the terms and conditions of the Lease including but not limited to Section 17.4(a), the Tenant originally named herein or a Permitted Transferee shall have the non-exclusive right, at its sole cost and expense, to maintain (a) one (1) branded lobby sign in the location to be mutually determined prior to the Term Commencement Date; and (b) one (1) branded exterior sign on the façade of the at both main Building entrances for the purpose of identifying Tenant or Permitted Transferee in the locations as approximately shown on Schedule 1 attached hereto, which Tenant Signage (including size, design, logo, color(s) and degree of illumination, if any, and actual location in or on the Building) shall be subject to the prior written approval of Landlord, not to be unreasonably withheld or delayed, and installed and maintained in compliance with all applicable Legal Requirements.



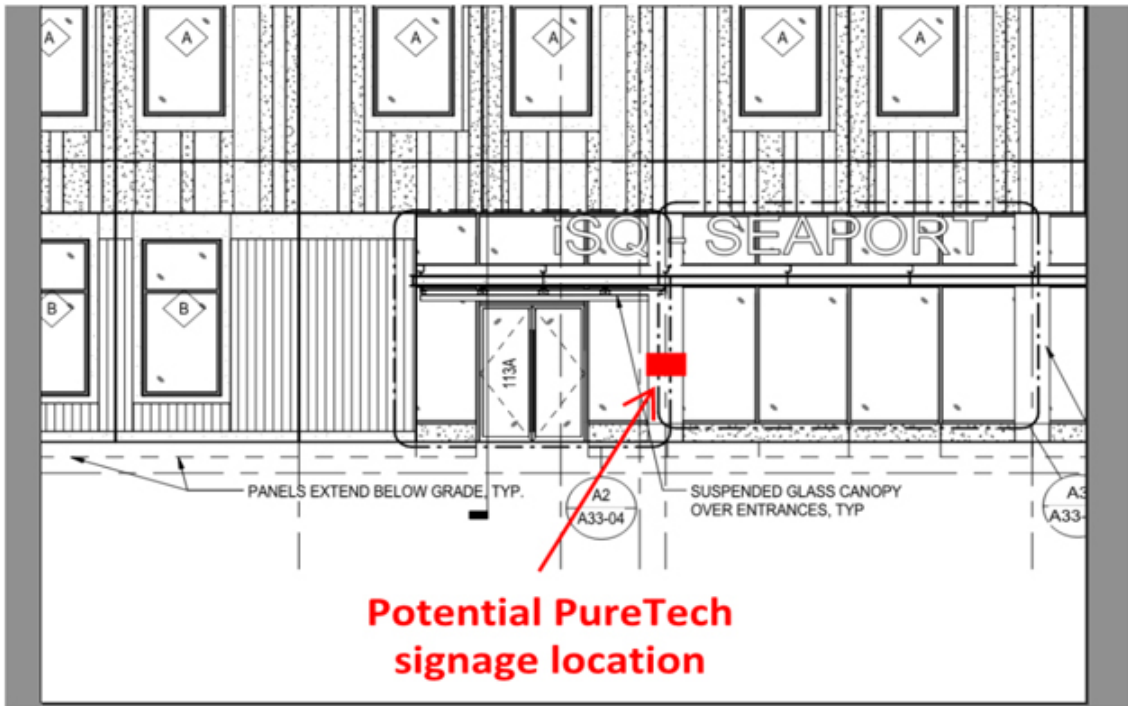


Exhibit B
Chemical Control Areas & Storage Quantities

Floor 1

Liquids	Class	Control Areas	Net Storage Permitted Per Floor	Units
	1A	4	480.00	gallons
	1B & 1C	4	1,920.00	gallons
	Combined Class 1	4	1,920.00	gallons
	Class 2	4	1,920.00	gallons
	Class 3A	4	5,280.00	gallons
	Class 3B	4	211,200.00	gallons

Gas & Solids	Class	Control Areas	Net Storage Permitted Per Floor	Units
	Flammable Gas	4	8,000.00	ft ³ at STP
	Flammable Solid	4	1,000.00	lbs.
	Pyrophoric Material	4	16.00	lbs.
	Unstable Class 4	4	4.00	lbs.
	Unstable Class 3	4	40.00	lbs.
	Unstable Class 2	4	400.00	lbs.
	Unstable Class 1	4	No Limit	No Limit
	Water Reactive Class 3	4	40.00	lbs.
	Water Reactive Class 2	4	400.00	lbs.
	Water Reactive Class 1	4	No Limit	No Limit

Floor 2

Liquids	Class	Control Areas	Net Storage Permitted Per Floor	Units
	1A	3	270.00	gallons
	1B & 1C	3	1,080.00	gallons
	Combined Class 1	3	1,080.00	gallons
	Class 2	3	1,080.00	gallons
	Class 3A	3	2,970.00	gallons
	Class 3B	3	118,800.00	gallons

Gas & Solids	Class	Control Areas	Net Storage Permitted Per Floor	Units
	Flammable Gas	3	4,500.00	ft ³ at STP
	Flammable Solid	3	562.50	lbs.
	Pyrophoric Material	3	9.00	lbs.
	Unstable Class 4	3	2.25	lbs.
	Unstable Class 3	3	22.50	lbs.
	Unstable Class 2	3	225.00	lbs.
	Unstable Class 1	3	No Limit	No Limit
	Water Reactive Class 3	3	22.50	lbs.
	Water Reactive Class 2	3	225.00	lbs.
	Water Reactive Class 1	3	No Limit	No Limit



**Exhibit B
Chemical Control Areas & Storage Quantities**

Floor 3

Liquids	Class	Control Areas	Net Storage Permitted Per Floor	Units
	1A	2	120.00	gallons
	1B & 1C	2	480.00	gallons
	Combined Class 1	2	480.00	gallons
	Class 2	2	480.00	gallons
	Class 3A	2	1,320.00	gallons
	Class 3B	2	52,800.00	gallons

Gas & Solids	Class	Control Areas	Net Storage Permitted Per Floor	Units
	Flammable Gas	2	2,000.00	ft ³ at STP
	Flammable Solid	2	250.00	lbs.
	Pyrophoric Material	2	4.00	lbs.
	Unstable Class 4	2	1.00	lbs.
	Unstable Class 3	2	10.00	lbs.
	Unstable Class 2	2	100.00	lbs.
	Unstable Class 1	2	No Limit	No Limit
	Water Reactive Class 3	2	10.00	lbs.
	Water Reactive Class 2	2	100.00	lbs.
	Water Reactive Class 1	2	No Limit	No Limit

Floor 4

Liquids	Class	Control Areas	Net Storage Permitted Per Floor	Units
	1A	2	30.00	gallons
	1B & 1C	2	120.00	gallons
	Combined Class 1	2	120.00	gallons
	Class 2	2	120.00	gallons
	Class 3A	2	330.00	gallons
	Class 3B	2	13,200.00	gallons

Gas & Solids	Class	Control Areas	Net Storage Permitted Per Floor	Units
	Flammable Gas	2	500.00	ft ³ at STP
	Flammable Solid	2	62.50	lbs.
	Pyrophoric Material	2	1.00	lbs.
	Unstable Class 4	2	0.25	lbs.
	Unstable Class 3	2	2.50	lbs.
	Unstable Class 2	2	25.00	lbs.
	Unstable Class 1	2	No Limit	No Limit
	Water Reactive Class 3	2	2.50	lbs.
	Water Reactive Class 2	2	25.00	lbs.
	Water Reactive Class 1	2	No Limit	No Limit



EXHIBIT 13
APPROVED HAZARDOUS MATERIALS LIST

[TO BE ATTACHED "COPY OF ONE EXAMPLE OF CHEMICAL LISTING AJB 2018.XLS"]

EXHIBIT 14
FORM OF NOTICE OF LEASE

NOTICE OF SUBLEASE

Notice is hereby given pursuant to Chapter 183, Section 4 of the General Laws, of a sublease upon the following terms:

Sublandlord:	RBK I TENANT, LLC, a Delaware limited liability company
Subtenant:	PURETECH HEALTH LLC, a Delaware limited liability company _____, 2018
Date of Sublease Execution:	
Premises:	Approximately 50,858 rentable square feet of space, consisting of the entire rentable area of the fourth (4 th) floor of approximately 35,499 rentable square feet and approximately 15,359 rentable square feet of space on the third (3 rd) floor of the Building, as more fully described in the Sublease, located on land known as 6 Tide Street, Suffolk County, MA ("Building"). The land on which the Premises and Building are located is more particularly shown on Exhibit A attached hereto and incorporated herein, and is leased to Sublandlord pursuant to that certain Ground Lease by and between the Economic Development and Industrial Corporation of Boston, d/b/a Boston Planning & Development Agency, as landlord, and Sublandlord, as tenant, as evidenced by a Notice of Ground Lease dated November 21, 2017 and recorded at the Suffolk County Registry of Deeds at Book 58836, Page 106.
Initial Sublease Expiration Date:	11:59 p.m. on the last day of the eleventh (11th) Lease Year (a partial year consisting of three (3) months) following the Term Commencement Date (as defined in the Sublease)
Extension Options:	Two (2) extension options of five (5) years each. An affidavit signed by the Landlord and recorded with the Suffolk County Registry of Deeds shall be conclusive in favor of any person acting in reliance thereon, without necessity of further inquiry, as to whether such option has been exercised by Tenant or has lapsed unexercised, or has been waived or terminated.
Right of First Offer:	Subject to and in accordance with the terms and conditions of Section 29.18 of the Sublease, the Subtenant has a right of first offer to lease any other space that is contiguous to the Premises in the Building, and certain space in the Phase II Building (as defined and further described in the Sublease).

6 Tide Street, Boston, Massachusetts

This Notice of Sublease has been executed merely to give notice of the Sublease, and all of the terms, conditions and covenants thereof which are incorporated herein by reference. The parties hereto do not intend this Notice of Sublease to modify or amend the terms, conditions and covenants of the Sublease.

[Signature Pages Follow]

Executed as an instrument under seal this ____ day of _____, 2018.

SUBLANDLORD:

RBK I TENANT, LLC,
a Delaware limited liability company

By:
Name:
Title:

STATE/Commonwealth of _____

_____, ss.

_____, 2018

On this day, before me, the undersigned notary public, personally appeared _____, proved to me through satisfactory evidence of identification, which was _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose, as said _____ of RBK I TENANT, LLC.

(official signature and seal of notary) My commission expires _____

SUBTENANT:

PURETECH HEALTH LLC,
Delaware limited liability company

By:
Name:
Title:

COMMONWEALTH OF MASSACHUSETTS

_____, ss.

_____, 2018

On this day, before me, the undersigned notary public, personally appeared _____, proved to me through satisfactory evidence of identification, which was _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose, as said _____ of PURETECH HEALTH LLC.

_____(official signature and seal of notary) My commission expires _____

EXHIBIT A

LEGAL DESCRIPTION

I. Description of the Land.

The Premises is shown as "Sub Phase II" on a certain plan entitled "Lease Plan of Land" for the project "Lease Parcel, 6 Tide Street, Boston, MA", dated November 9, 2017, and prepared by Allen & Major Associates, Inc. (the "Premises Plan"), to be recorded with the Suffolk County Registry of Deeds. The legal description of the entire Premises as shown the Premises Plan is as follows:

A certain lease area located in the City of Boston, County of Suffolk, Commonwealth of Massachusetts bounded and described as follows:

Beginning at a point shown as P.O.B. on the Premises Plan, said point being the easterly most corner of the proposed lease area to be described hereafter; thence

- S31°28'1 1W Two hundred fifty-eight and fifteen hundredths feet (258.15') to a point; thence
- N58°31'49W Three hundred five and ninety-nine hundredths feet (305.99') to a point; thence
- N31°16'51E Two hundred forty and forty-two hundredths feet (240.42') to a point of curvature; thence
- Northeasterly Along an arc to the right having a radius of twenty and no hundredths feet (20.00'), an arc length of thirty and fifty-five hundredths feet (30.55'), a chord length of twenty-seven and sixty-seven hundredths feet (27.67') and a chord bearing of N75°02'30E to a point of tangency; thence
- S61°H'51E Two hundred seventy-two and twenty-eight hundredths feet (272.28) to a point of curvature; thence
- Southeasterly Along an arc to the right having a radius of fifteen and no hundredths feet (15.00'), an arc length of twenty-four and twenty-six hundredths feet (24.26'), a chord length of twenty one and seventy hundredths feet (21.70') and a chord bearing of S14°51'50E to a point of tangency, being the point of beginning.

The above described lease area contains an area of 81,591 square feet, more or less.

EXHIBIT 15
SPECIFIC TENANT'S REMOVABLE PROPERTY

[TO BE PROVIDED BY TENANT AND REASONABLY APPROVED BY LANDLORD POST-EXECUTION AND PRE-ENTRY]

EXHIBIT 16
ROOF EXHIBIT

(see attached)

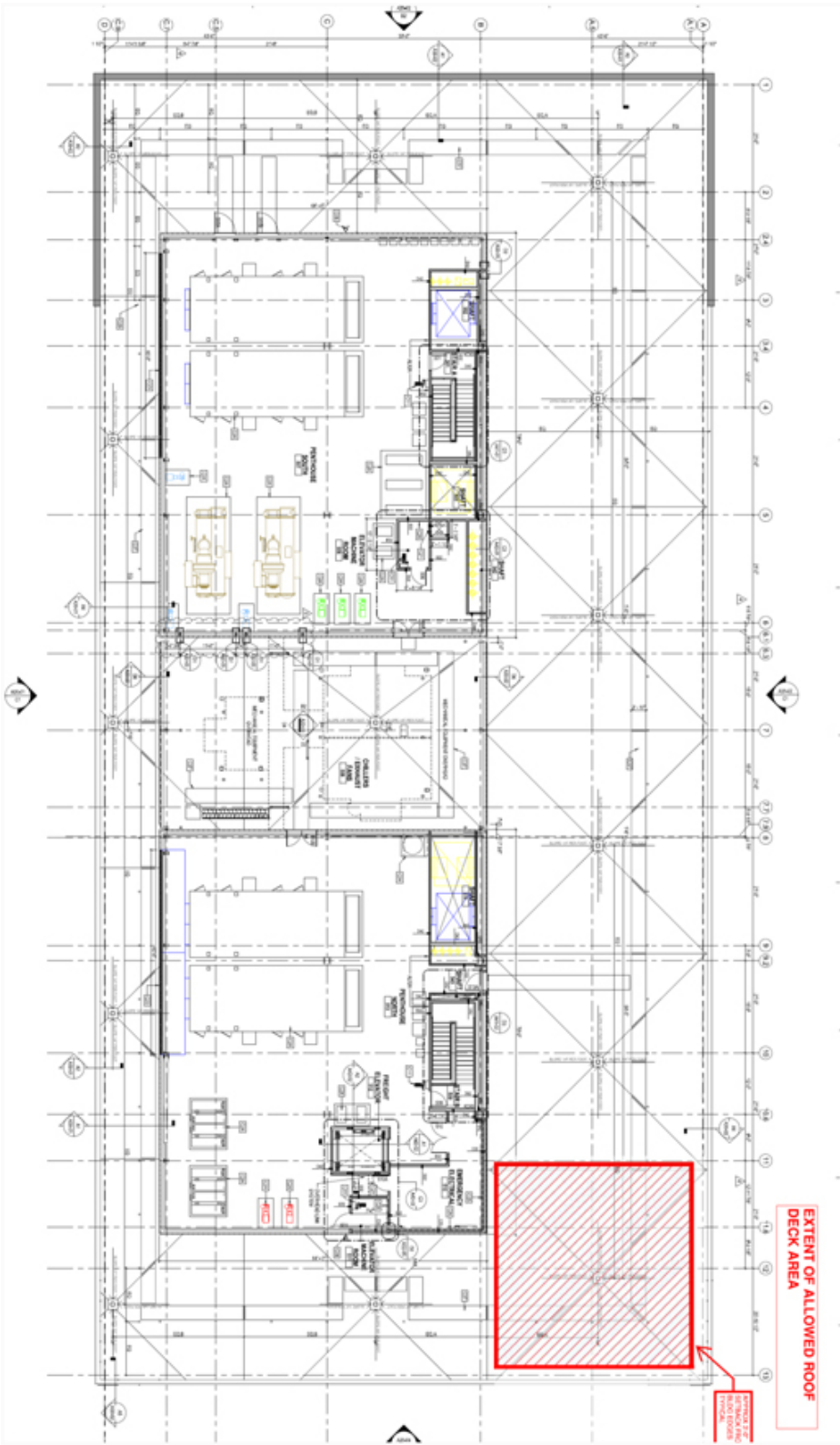
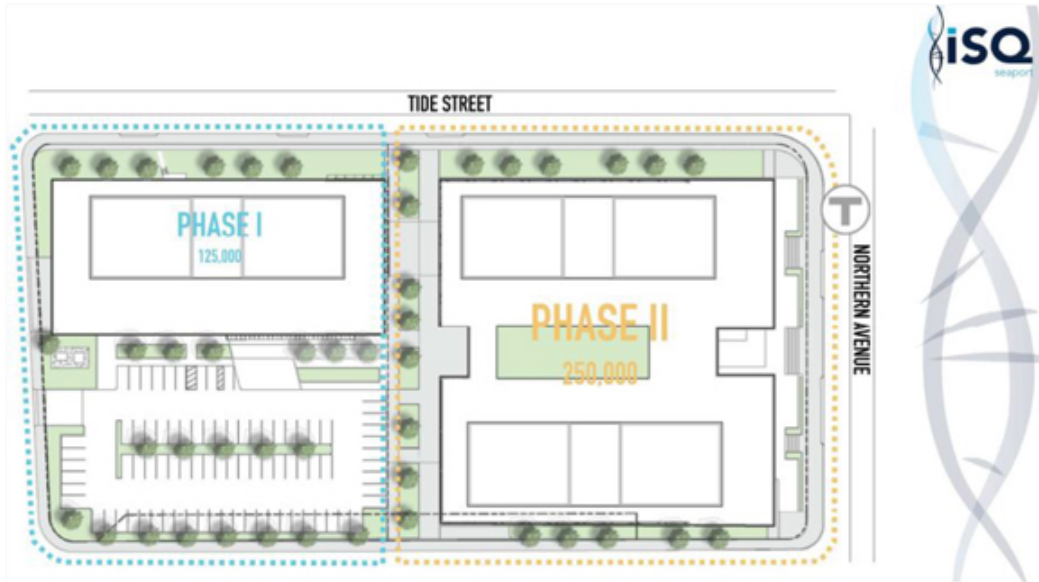


EXHIBIT 17
PHASE II PRELIMINARY PLAN



CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED (INDICATED BY: [***]) FROM THE EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM IF PUBLICLY DISCLOSED.

Execution Version

ASSET PURCHASE AGREEMENT

by and between

AUSPEX PHARMACEUTICALS, INC.

and

PURETECH HEALTH LLC

July 15, 2019

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ASSET PURCHASE AGREEMENT

This ASSET PURCHASE AGREEMENT (this “**Agreement**”) is entered into as of July 15, 2019 (the “**Effective Date**”), by and between AUSPEX PHARMACEUTICALS, INC., a Delaware corporation (“**Auspex**”) and PURETECH HEALTH LLC, a Delaware limited liability company (“**Purchaser**”).

BACKGROUND

A. Auspex is a wholly-owned subsidiary of Teva Pharmaceuticals USA, Inc., and is in the business of researching, developing, manufacturing or having made, as the case may be, compounds intended for pharmaceutical use.

B. Auspex owns certain assets and rights, and is subject to certain liabilities, relating to the Compound and the Product (as such terms are defined below).

C. Auspex desires to sell (or to cause to be sold), and Purchaser desires to purchase, certain rights and assets related to the Compound and the Product, and Purchaser is willing to assume certain liabilities related to the Compound and the Product, in each case upon the terms and subject to the conditions set forth herein and in the Ancillary Agreements.

NOW THEREFORE, in consideration of the premises and mutual covenants herein contained and for other good and valuable consideration (the receipt and sufficiency of which is hereby acknowledged), the parties hereto hereby agree as follows:

ARTICLE I

INTERPRETATION

1.1. Defined Terms. For the purposes of this Agreement, the following terms shall have the following meanings:

“**Action**” means any claim, action, suit, arbitration, complaint, inquiry, audit, proceeding or investigation, in each case, by or before any applicable Governmental Authority.

“**Affiliate**” means any Person that controls, is controlled by, or is under common control with the applicable Person. For purposes of this definition, “control” shall mean: (i) in the case of corporate entities, direct or indirect ownership of fifty percent (50%) or more of the stock or shares entitled to vote for the election of directors, or otherwise having the power to control or direct the affairs of such Person; and (ii) in the case of non-corporate entities, direct or indirect ownership of 50% or more of the equity interest or the power to direct the management and policies of such non-corporate entities. Affiliates of Purchaser shall include any company that (i) fits the definition in the first two sentences of this paragraph and (ii) to which Purchaser grants, or under the circumstances would be deemed to require to grant, a license or sublicense, as applicable, of Purchaser’s rights under this Agreement. Except as stated in the previous sentence, Affiliates of Purchaser shall not include (i) any other companies that are controlled by Purchaser or (ii) any companies that are under common control with Purchaser. However, nothing in this paragraph shall be interpreted as granting the right to Purchaser to be released from its obligations under this Agreement by inter-company transactions within Purchaser.

“**Ancillary Agreements**” means the Assignment and Assumption Agreement, the Bill of Sale, the IP Assignment and the Neuland Assignment Agreement.

“**Annual Report**” has the meaning set forth in Section 2.12.

“**Applicable Laws**” means, in respect of any Person, property, transaction, event or course of conduct, all applicable laws, statutes, regulations, rules, bylaws, ordinances, codes, official directives, orders, rulings, judgments or decrees of any Governmental Authority.

“**Assignment and Assumption Agreement**” means the assignment and assumption agreement substantially in the form of Exhibit A.

“**Assumed Liabilities**” has the meaning set forth in Section 2.3.

“**Auspex Indemnitees**” has the meaning set forth in Section 6.2.

“**Auspex’s knowledge**” means the actual knowledge, after reasonable inquiry, of Stephen Trusko and Brian Shanahan.

“**Auspex Technology**” means, to the extent exclusively related to the Compound or a Product, any and all current and future issued patents, patent applications or other patent rights, unpatented inventions, know-how, show-how, trade secrets, trademarks, copyrights and other information owned or controlled by Auspex or its Affiliates necessary to exploit the Compound or a Product.

“**Bill of Sale**” means the bill of sale in the form attached hereto as Exhibit B.

“**Business Day**” means any day, other than Friday, Saturday, Sunday or any statutory holiday in the State of New York or Israel.

“**Calendar Quarter**” means each three (3) month period commencing January 1, April 1, July 1 or October 1 during the Royalty Term, provided, however, that (a) the first Calendar Quarter of the Royalty Term shall extend from the first day of the Royalty Term to the end of the first full Calendar Quarter thereafter, and the last Calendar Quarter of the Royalty Term shall end on the last day of the Royalty Term.

“**Calendar Year**” means the period beginning on the 1st of January and ending on the 31st of December of the same calendar year during the Royalty Term, provided, however, that (a) the first Calendar Year of the Royalty Term shall commence on the first day of the Royalty Term and end on December 31 of the same calendar year as the first day of the Royalty Term, and (b) the last Calendar Year of the Royalty Term shall commence on January 1 of the calendar year in which the Royalty Term ends and end on the last day of the Royalty Term.

“**Claim Notice**” has the meaning set forth in Section 6.3(a)(i).

“**Claims**” has the meaning set forth in [Section 6.1](#).

“**Closing Date**” has the meaning set forth in [Section 3.1\(a\)](#).

“**Combination Product**” means a Product comprising a pharmaceutical formulation containing as an active ingredient Compound and one or more other therapeutically active ingredients.

“**Commercially Reasonable Efforts**” means, with respect to the efforts to be expended by a Party with respect to any objective under this Agreement, reasonable, diligent, good-faith efforts to accomplish such objective as such Party would normally use to accomplish a similar objective under similar circumstances exercising reasonable business judgment; it being understood and agreed that, such efforts shall be substantially equivalent to those efforts and resources commonly used by such Party for a product owned by it or to which it has rights, which product is at a similar stage in its development stage or product life and is of similar market potential as the Product, taking into account factors including but not limited to efficacy, safety, approved labeling, the competitiveness of alternative products in the marketplace, the patent and other proprietary position of the product, the likelihood of Product Approval given the regulatory structure involved, the profitability, and other relevant factors commonly considered in similar circumstances.

“**Compound**” means deuterated pirfenidone, also known as SD-560, and salts, solvates, enantiomers, isomers, modifications, prodrugs, or metabolites, of deuterated pirfenidone.

“**[***]**” has the meaning set forth in [Section 2.2\(b\)](#).

“**Confidential Information**” means any and all information or material that, at any time before, on or after the date hereof, has been or is provided or communicated to the Receiving Party by or on behalf of the Disclosing Party pursuant to any of the Transaction Documents in connection with the Transactions or any discussions, due diligence or negotiations with respect thereto; any data, ideas, concepts or techniques contained therein; and any modifications or derivations therefrom; provided, however, that following the Closing notwithstanding the foregoing or anything else to the contrary, any non-public information and materials included in and relating solely to the Transferred Assets shall constitute Confidential Information of Purchaser and not Confidential Information of Auspex (and Purchaser shall be deemed to be the Disclosing Party, and Auspex the Receiving Party, of such information).

“**Contracts**” means any agreement, contract, commitment or other instrument or arrangements that are in writing and signed on behalf of Auspex or its Affiliates (i) by which the Transferred Assets are bound or affected or (ii) to which Auspex or its Affiliates is a party or by which it is bound relating to the Transferred Assets, in each case as amended, supplemented, waived or otherwise modified.

“**CPA Representatives**” has the meaning set forth in [Section 2.9](#).

“**Debarred Entity**” has the meaning set forth in [Section 4.1\(h\)](#).

“**Disclosing Party**” means the Party disclosing Confidential Information.

“**Encumbrance**” means any lien, mortgage, charge, pledge, security interest, hypothecation, condition, prior assignment, option, warrant, license, lease, sublease, right to possession, encumbrance, claim, servitude, easement, encroachment, equitable interest, or any right or restriction, which affects, by way of a conflicting ownership interest or otherwise, the right, title, use or interest in or to any particular property.

“**Excluded Assets**” has the meaning set forth in Section 2.2.

“**Excluded Liabilities**” mean Liabilities arising out of or in connection with or related to the Transferred Assets that are not Assumed Liabilities.

“**FDA**” means the U.S. Food and Drug Administration, including all agencies under its control, and any successor agency thereto.

“**First Commercial Sale**” means, with respect to a Product in any country, the first sale of such Product to a Third Party in such country for distribution, use or consumption after Product Approval has been obtained for such Product in such country. Sales for purposes of testing the Product in a clinical trial shall not be deemed a First Commercial Sale. For clarity, First Commercial Sale shall be determined on a Product-by-Product and country-by-country (or region-by-region) basis, as applicable.

“**Fundamental Reps**” means the representations and warranties set forth in Section 4.1(a) (*Organization*), Section 4.1(b) (*Corporate Authority*), Section 4.1(f) (*Title to Transferred Assets*), Section 4.1(p) (*No Brokers*), Section 4.2(a) (*Organization*), Section 4.2(b) (*Limited Liability Company Authority*) and Section 4.2(h) (*No Brokers*).

“**GAAP**” means United States generally accepted accounting principles.

“**Generic Product**” means, with respect to a particular Product or Combination Product and a particular country, (i) any pharmaceutical product (other than the Product or Combination Product, as applicable) that contains the same active ingredient(s) in a comparable quality and quantity as such Product or Combination Product, as applicable, irrespective of its pharmaceutical form, and is approved under an Abbreviated New Drug Application (ANDA) or any similar abbreviated route of approval in such country.

“**GMP**” means then-current good manufacturing practices as required by Applicable Laws and the rules and regulations of the applicable Regulatory Authority where Auspex or any of its Affiliates makes or has made the Compound or the Product and the jurisdictions where the Compound or Product is manufactured, as applicable to the manufacture, packaging, handling, storage and control of the Compound or the Product in the applicable jurisdiction.

“**Governmental Authority**” means any (i) federal, provincial, state, regional, municipal, local or other government, domestic or foreign; (ii) governmental or quasi-governmental authority of any nature (including any agency, branch, department, commission, board, court or tribunal); (iii) body exercising any administrative, executive, judicial, legislative, police, regulatory, expropriation or taxing authority, domestic or foreign; or (iv) self-regulatory organization or stock exchange having jurisdiction in the relevant circumstances.

“**IND**” means an Investigational New Drug Application, Clinical Study Application, Clinical Trial Exemption, or similar application or submission for approval to conduct human clinical investigations filed with or submitted to a Regulatory Authority in conformance with the requirements of such Regulatory Authority.

“**Indemnitee**” has the meaning set forth in Section 6.3(a).

“**Indemnitor**” has the meaning set forth in Section 6.3(a).

“**Inventory**” means the entire inventory of the Compound and the Product, including the non-GMP and GMP materials, owned or held for use by Auspex or any of its Affiliates on the Effective Date, as set forth on Schedule 1.1(a).

“**IP Assignment**” means the Intellectual Property Assignment Agreement in the form attached hereto as Exhibit C.

“**Liabilities**” means, with respect to any Person, any liabilities or obligations of such Person of any kind, character or description.

“**Licensed Patent**” means (a) the continuation patent application with the claims set forth on Schedule B, [***]; (b) reissues, substitutions, confirmations, registrations, validations, re-examinations, additions, continuations, continued prosecution applications, continuations-in-part, or divisions of or to the continuation patent application set forth on Schedule B; (c) any other patent application claiming priority to the continuation patent application set forth on Schedule B; and (d) extension, renewal or restoration of any of the foregoing by existing or future extension, renewal or restoration mechanisms, including supplementary protection certificates or the equivalent thereof, in all cases with respect to subparts (a), (b), (c) and (d) above, only to the extent related to the Compound or the Product.

“**Licensed Patent Rights**” means (a) the Licensed Patent and (b) any foreign patents or patent equivalents to the Licensed Patent that result from the filing by Auspex of divisional applications in accordance with the provisions of Section 2.2(d) hereunder.

“**Losses**” has the meaning set forth in Section 6.1.

“**Material Adverse Effect**” means, with respect to Auspex, any change, effect, event, circumstance, occurrence or state of facts that is materially adverse to (a) the value of the Transferred Assets, taken as a whole, or (b) the ability of Auspex to consummate the Transactions, provided that none of the following changes, effects, events, circumstances, occurrences or states of facts shall be deemed, either alone or in combination, to constitute a Material Adverse Effect, or be taken into account in determining whether there has been or would reasonably be expected to be a Material Adverse Effect: (i) changes or effects in the general business, economic, social, political or legal conditions or the securities, syndicated loan, credit or financial markets; (ii) changes or proposed changes in Applicable Law or GAAP (or any applicable accounting standards in any jurisdiction outside the United States) or the enforcement thereof; (iii) changes to

Applicable Laws, that generally affect the pharmaceutical industry; (iv) changes or effects that arise out of or are attributable to the commencement, occurrence, continuation or intensification of any war, sabotage, armed hostilities or acts of terrorism; (v) earthquakes, hurricanes or other natural disasters; (vi) failure to meet projections, estimates, plans or forecasts; (vii) changes or effects that arise out of or are attributable to the negotiation, execution, announcement or pendency of the Transactions or the performance of and compliance with the terms of this Agreement, including any litigation, any reduction in revenues or income, any loss of customers or any disruption in supplier, distributor or similar relationships; (viii) any labor strikes, labor stoppages or loss of employees; (ix) currency fluctuations; (x) changes or effects that arise out of or are attributable to actions or omissions of Purchaser or any of its Affiliates or actions or omissions of Auspex or any of its Affiliates and consented to by Purchaser or any of its Affiliates; or (xi) any matter disclosed in the Schedules to this Agreement.

“**Material Contracts**” means material Contracts (x) by which any of the Transferred Assets are bound or affected or (y) to which Auspex or its Affiliates is a party or by which it is bound relating to the Transferred Assets.

“**Milestone Events**” has the meaning set forth in Section 2.5.

“**Milestone Payments**” has the meaning set forth in Section 2.5.

“**Net Sales**” means [***].

“**Neuland Assignment Agreement**” means the Assignment Agreement in the form attached hereto as Exhibit E.

“**Nonassigned Contract**” has the meaning set forth in Section 2.2(e).

“**Notice Period**” has the meaning set forth in Section 6.3(a)(ii).

“**Parties**” means, collectively, the signatories to this Agreement and “**Party**” means any one of them.

“**[***] Agreement**” has the meaning set forth in Section 2.2(b).

“**Patents**” means the patents and patent applications set forth on Schedule A.

“**Periodic Reports**” has the meaning set forth in Section 2.6(e).

“**Permitted Encumbrances**” means any (i) Encumbrance for Taxes not yet due, delinquent or which are being contested in good faith by appropriate proceedings; or (ii) Encumbrance caused by Applicable Law for amounts not material or overdue that does not or would not be reasonably expected to materially detract from the current value of, or interfere with, the present use and enjoyment of any Transferred Asset subject thereto or affected thereby; (iii) mechanics’, materialmens’, carriers’, workmens’, warehousemens’, repairmens’, landlords’ or other like Encumbrances and security obligations that are incurred in the ordinary course of business and are not delinquent; and (iv) all Encumbrances approved in writing by Purchaser.

“**Person**” means an individual, a general or limited partnership, a corporation, a trust, a joint venture, an unincorporated organization, a limited liability entity, any other business or legal entity and any Governmental Authority or Regulatory Authority.

“**Product**” means, any finished pharmaceutical product containing the Compound.

“**Product Approval**” means, as applicable, on a jurisdiction by jurisdiction basis, with respect to a given Product, any and all approvals, licenses, registrations or authorizations of the applicable Regulatory Authority necessary for the development, manufacture, packaging, labeling, storage, import, export, marketing, distribution, sale, use and/or intended use of such Product and reimbursement, if applicable, in and for the relevant jurisdiction, including any Regulatory Application.

“**Product Business**” has the meaning set forth in [Section 4.1\(g\)\(i\)](#).

“**Product IND**” means the IND for the Product as set forth on [Schedule B](#), together with all amendments, modifications, supplements and updates thereto.

“**Purchaser Indemnitees**” has the meaning set forth in [Section 6.1](#).

“**Purchase Price**” has the meaning set forth in [Section 2.4](#).

“**Receiving Party**” means the Party receiving Confidential Information.

“**Regulatory Applications**” means any and all applications, submissions or other filings with a Regulatory Authority seeking approval to make and/or have made, or market, distribute, sell, develop, manufacture, package, label, store, import, export, register and/or use the Compound or a Product, in each case as set forth on [Schedule B](#).

“**Regulatory Authority**” means any Governmental Authority (whether federal, state, municipal, local or other) regulating the development, manufacture, packaging, labeling, storage, import, export, marketing, distribution, sale, registration, use and/or intended use of the Compound or a given Product in any country in the Territory.

“**Regulatory Commitments**” has the meaning set forth in [Section 0](#).

“**Regulatory Documentation**” means (i) all correspondence and submissions between Auspex and (A) the FDA or any other applicable Regulatory Authority with respect to Regulatory Applications and Product Approvals for the Compound or a Product, including any reports, filings, or notices submitted to FDA or other Regulatory Authority to support, maintain or obtain the Product IND or any other Regulatory Applications or Product Approvals; (ii) the annual and periodic reports relating to the Product IND or any other Regulatory Applications for the Products which have been filed by or on behalf of Auspex with the FDA or other Regulatory Authority, and adverse event reports pertaining to the Compound or any Product, in each case to the extent in the possession or control of Auspex or any of its Representatives; (iii) all pre-clinical data, animal data, clinical data, and laboratory records, data and information exclusively related to the development and commercialization of the Compound or any Product, and any other records and data concerning pre-clinical or clinical studies conducted with respect to the Compound or any

Product; and (iv) any other regulatory applications, submissions, notifications, communications, correspondence, registrations, approvals, drug master files (DMFs) and/or other filings made to, received from or otherwise conducted with a Regulatory Authority in order to make, have made, develop, manufacture, package, label, store, import, export, market, distribute, sell, register and/or use a Product in a particular country or jurisdiction, including all Regulatory Applications.

“Regulatory Fees” means any and all fees and charges imposed or assessed by any Regulatory Authority in connection with the development, manufacture, packaging, labeling, storage, import, export, marketing, distribution, sale, registration, use and/or intended use of a given Product.

“Representatives” means, with respect to a Person, such Person’s Affiliates and its and its Affiliates’ respective officers, employees, agents, attorneys, consultants, subcontractors, advisors and other representatives.

“Response Notice” has the meaning set forth in [Section 6.3\(b\)](#).

“Royalties” has the meaning set forth in [Section 2.6\(a\)](#).

“Royalty Term” means, on a Product-by-Product and country-by-country basis, the period commencing on the First Commercial Sale of such Product in such country and continuing until ten (10) years from the date of First Commercial Sale of such Product in such country.

“Sales Projections” has the meaning set forth in [Section 2.6\(e\)](#).

“Shared Assets” has the meaning set forth in [Section 2.2\(d\)](#).

“Tax(es)” means any and all taxes, levies, tariffs, imposts, duties or other charges in the nature of a tax (together with any and all interest, penalties, additions to tax and additional amounts imposed with respect thereto) imposed by any Governmental Authority, including income, estimated income, gross receipts, profits, business, license, occupation, franchise, capital stock, real or personal property, sales, use, transfer, value added, employment or unemployment, social security, disability, alternative or add on minimum, customs, excise, stamp, environmental and withholding taxes.

“Taxing Authority” means any Governmental Authority, exercising any authority to impose, regulate or administer the imposition of Taxes.

“Tax Return” shall mean any return, report, declaration, information return, statement or other document filed or required to be filed with any Taxing Authority in connection with the determination, assessment or collection of any Tax or the administration of any Applicable Laws relating to any Tax.

“Territory” means all of the countries in the world, and their territories and possessions.

“TGA” means the Australian Therapeutic Goods Administration, including all agencies under its control, and any successor agency thereto.

“**Third Party**” means any Person other than Purchaser, Auspex and their respective Affiliates.

“**Third Party Claim**” has the meaning set forth in Section 6.1.

“**Transaction Documents**” means this Agreement and the Ancillary Agreements.

“**Transactions**” means, collectively, the transactions contemplated by this Agreement and the Ancillary Agreements, including the purchase and sale of the Transferred Assets and the assumption of the Assumed Liabilities.

“**Transfer Taxes**” means all documentary, sales, use, stamp, registration and other such Taxes (and fees) together with all penalties and interest associated therewith.

“**Transferred Assets**” has the meaning set forth in Section 2.2(a).

“**Transferred Contracts**” has the meaning set forth in Section 2.2(a)(vi).

“**Transferred IP Rights**” means (i) the Transferred Patent Rights and (ii) Auspex’s intellectual property rights in the Auspex Technology.

“**Transferred Patent Rights**” means the Patents.

“**Upfront Payment**” has the meaning set forth in Section 2.4.

“**U.S.**” means the United States of America and its territories, districts, commonwealths and possessions, including the Commonwealth of Puerto Rico.

1.2. Interpretation. Unless the context otherwise requires, in this Agreement:

(a) References to this Agreement. “Agreement”, “this Agreement”, “the Agreement”, “hereto”, “hereof”, “herein”, “hereby”, “hereunder” and similar expressions mean or refer to this Agreement and, as applicable, any Exhibits, Ancillary Agreements, Annexes and Schedules attached to it as amended from time to time and any written agreement or instrument supplemental hereto. Unless otherwise specified, expressions such as “Article” and “Section” followed by a number or letter mean and refer to the specified Article or Section or other provision of this Agreement.

(b) Headings and Table of Contents. The inclusion of headings and a table of contents is for convenience of reference only and shall not affect the construction or interpretation hereof.

(c) Gender and Number. Except where the context requires otherwise, words importing the singular include the plural and vice versa and words importing gender include all genders.

(d) Including. Where the word “including” or “includes” is used, it means including or includes “without limitation”.

(e) Or. The word “or” is not exclusive.

(f) No Strict Construction. The language used in this Agreement is the language chosen by the Parties to express their mutual intent, and no rule of strict construction shall be applied against any party proposing any such language.

(g) Statutory References. A reference to a statute includes all rules and regulations made pursuant to such statute and, unless expressly provided otherwise, the provisions of any statute, rule or regulation which amends, supplements or supersedes any such statute, rule or regulation in force at the time of the signature of this Agreement.

(h) Currency. Except where expressly provided otherwise herein, all amounts referred to in this Agreement are expressed in United States Dollars.

(i) Time Periods. Except where expressly provided otherwise herein, time periods within or following which any payment is to be made or act is to be done shall be calculated by excluding the day on which the period commences and including the day on which the period ends and by extending the period to the following Business Day if the last day of the period is not a Business Day.

ARTICLE II

PURCHASE AND TRANSFER OF ASSETS

2.1. Transfer of Assets. At the Closing and upon the terms and subject to the conditions of this Agreement, Auspex shall assign, transfer, convey and deliver to Purchaser, and Purchaser shall acquire and accept, all right, title and interest of Auspex in, to and under the Transferred Assets, free and clear of all Encumbrances other than Permitted Encumbrances. In order to effectuate the assignment, transfer and conveyance of the Transferred Assets, at the Closing, the Parties shall duly execute and deliver the Assignment and Assumption Agreement, the Bill of Sale, the IP Assignment and the Neuland Assignment Agreement contemplated herein. As of the Closing Date, Auspex will initiate the transfer to Purchaser of the Inventory and all other materials, documents and electronic copies of all data, records and information included in the Transferred Assets, which transfer shall be completed within [***] thereafter.

2.2. Transferred Assets.

(a) The term “**Transferred Assets**” means the following assets of Auspex and its Affiliates:

- (i) the Product IND and any other Regulatory Applications;
- (ii) the Regulatory Documentation;
- (iii) the Inventory;
- (iv) the Transferred IP Rights;

(v) the Auspex Technology;

(vi) the Contracts set forth on Schedule 2.2(a)(vi) (the “**Transferred Contracts**”); and

(vii) all claims, counterclaims, defenses, causes of action, rights under express or implied warranties, rights of recovery, rights of set-off, rights of subrogation and all other rights of any kind against any Third Party to the extent relating to the Assumed Liabilities or Transferred Assets.

(b) Notwithstanding the foregoing, the Transferred Assets do not include any other assets any kind, nature, character or description (whether real, personal or mixed, whether tangible or intangible, whether absolute, accrued, contingent, fixed or otherwise, and wherever situated) that are not expressly included within the definition of Transferred Assets (the “**Excluded Assets**”), including without limitation:

(i) any Contracts of Auspex or rights therein or thereunder, other than the Transferred Contracts;

(ii) any licenses, permits, registrations, certificates or other authorizations, consents, clearances or approvals of Auspex and its Affiliates, other than as set forth in Section 2.2(a);

(iii) (A) the corporate books and records of Auspex and its Affiliates to the extent not related to the Products, the Transferred Assets or any Assumed Liabilities, (B) all personnel records, (C) any attorney work product, attorney client communications and other items protected by attorney client or similar privilege to the extent relating to the Transactions, (D) Tax Returns, Tax information, and Tax records related to Auspex or its Affiliates, (E) any documents that were received from Third Parties in connection with their proposed acquisition of the Transferred Assets or the Compound or Products or that were prepared by Auspex or any of its Affiliates in connection therewith and (F) any market research data compiled by or on behalf of Auspex, clinical timelines and budgets, commercial forecasts, target product profiles (to the extent not included in the IND, Regulatory Applications or other Regulatory Documentation), in each case regardless of whether or not related to the Compound or the Product;

(iv) any current and prior insurance policies of Auspex and its Affiliates and all rights of any nature with respect thereto, including all insurance recoveries thereunder and rights to assert claims with respect to any such insurance recoveries;

(v) any intellectual property rights of Auspex or its Affiliates, other than (x) the Transferred IP Rights and (y) any intellectual property rights included in the Auspex Technology;

(vi) any rights, claims and credits of Auspex or any of its Affiliates relating to any Excluded Asset or any Excluded Liability;

(vii) any rights that could be construed to interfere with, hinder or compromise Auspex’s ability to institute or maintain any claim, action, suit or proceeding against a third party for infringement of patents owned or licensed by Auspex or its Affiliates (other than the Patents); and

(viii) any other assets, properties or rights of Auspex or any of its Affiliates other than the Transferred Assets.

For the avoidance of doubt, the Parties acknowledge and agree that the [***] Agreement dated as of [***] (the “[***] Agreement”) between Auspex Pharmaceuticals, Inc. and [***] is an Excluded Asset and is not being transferred or assigned to Purchaser by Auspex or any Affiliate of Auspex that is party thereto.

(c) Purchaser acknowledges and agrees that Auspex may retain for archival purposes and for purposes of complying with Applicable Laws and for legal and regulatory purposes as a manufacturer of the Compound or Products, copies of all or any part of the documentation that Auspex delivers to Purchaser pursuant to Section 2.2(a). Auspex agrees to treat such copies as Purchaser’s Confidential Information in accordance with Article VII.

(d) The Parties acknowledge that Auspex or its Affiliates own or control the Licensed Patent and may own or control Confidential Information, trade secrets, processes, know-how, technology, data and other intellectual property rights and information (whether or not confidential) that is used in connection with both the Compound and the Products and the business of Auspex or its Affiliates with respect to compounds or products other than the Compound or the Products, and that is not included in the Transferred Assets (all of the foregoing, including the Licensed Patent, collectively, “**Shared Assets**”). Nothing in this Agreement shall be deemed to create or effect a transfer of any right, title or interest in any Shared Asset, except that Auspex hereby grants, and shall cause its Affiliates to grant, Purchaser a paid-up, non-exclusive (or, in the case of the Licensed Patent Rights, exclusive), perpetual, irrevocable and assignable license, with the right to grant sublicenses, to practice, use and exploit the Shared Assets solely to the extent necessary to develop, make, have made, distribute, sell, offer for sale and use the Compound and/or the Products. Promptly after the discovery of any Shared Assets, Auspex will provide Purchaser written notice identifying such Shared Asset(s). To the extent Auspex desires to extend the Licensed Patent Rights beyond the Licensed Patent to include foreign equivalent patents and patent applications to the Licensed Patent published, pending or allowed by the respective patent authorities identified on Schedule 2.2(d), Puretech shall have [***] following the Closing within which to notify Auspex in writing that it desires to have the Licensed Patent Rights extended to any such patents or patent applications. Within [***] of receipt by Auspex of Puretech’s timely written notice, Auspex shall cause to be filed, at Puretech’s expense, divisional applications with respect to such patents and patent applications to create foreign equivalent patents or patent applications to the Licensed Patent, and such divisionals shall be included in the Licensed Patent Rights. Purchaser has the right, but not the obligation, at its sole expense, to prosecute, maintain and enforce the Licensed Patent Rights. Teva hereby covenants to refrain from filing any further claims covering the Compound with respect to the patent family including [***] or any other patent application claiming priority anywhere in the world. Auspex and Purchaser will discuss in good faith general patent strategy, and in furtherance of that obligation, Puretech will provide copies of any submissions planned to be filed with patent authorities to Auspex sufficiently in advance to provide Auspex with reasonable time to review and provide feedback to Puretech, which feedback Puretech take under consideration.

(e) (i) Notwithstanding anything to the contrary in this Agreement, this Agreement shall not constitute an agreement to assign or transfer any such Transferred Contract that is not assignable or transferable without the consent of any Person, other than Auspex, Purchaser or any of their respective Affiliates, to the extent that such consent shall not have been given, or required hereunder, prior to the Closing (each, a “**Nonassigned Contract**”); provided, however, that Auspex shall use, both prior to and for [***] after the Closing, commercially reasonable efforts to obtain, and Purchaser shall use its commercially reasonable efforts to assist and cooperate with Auspex in connection therewith, all necessary consents to the assignment and transfer of each Nonassigned Contract; provided, further, that none of Auspex, Purchaser or any of their respective Affiliates shall be required to commence any litigation or offer or grant any accommodation (financial or otherwise) to any third party in connection with such efforts. With respect to any Nonassigned Contract, for a period beginning on the Closing Date and ending on the earlier of (i) the time such requisite consent is obtained and such Nonassigned Contract is transferred and assigned to Purchaser and (ii) the date that is [***] after the Closing Date, Auspex shall use commercially reasonable efforts to provide to Purchaser substantially comparable benefits thereof and shall enforce, at the request of and for the benefit of Purchaser, and at the expense of Auspex, any rights of Auspex arising thereunder against any Person, including the right to seek any available remedies or to elect to terminate in accordance with the terms thereof upon the advice of Purchaser. As a condition to Auspex providing Purchaser with benefits of any Nonassigned Contract, Purchaser shall perform, at the direction of Auspex, the obligations of Auspex thereunder.

(ii) Auspex provides no assurances to Purchaser that any consent, authorization, approval or waiver of a Third Party contemplated by this Section 2.2(e) will be granted. Subject to compliance by Auspex with the provisions of this Section 2.2(e), the Parties acknowledge and agree that neither Auspex nor its Affiliates shall be obligated to obtain any such authorization, approval, consent or waiver hereunder and neither (i) the failure to so actually obtain any such authorization, approval, consent or waiver in connection with the consummation of the Transactions in and of itself nor (ii) any default or termination or any lawsuit, action, claim, proceeding or investigation commenced or threatened by or on behalf of any Person to the extent arising out of any such failure to so actually obtain any such authorization, approval, consent or waiver in connection with the consummation of the Transactions in and of itself shall be deemed a breach of any representation, warranty or covenant of Auspex contained in this Agreement to cause any condition to Purchaser’s obligations to close the Transactions to be deemed not satisfied. Under no circumstances shall the Purchase Price be reduced or Auspex or its Affiliates be subject to any liability on account of the failure to obtain any such authorization, approval, consent or waiver.

2.3. Assumption of Certain Liabilities and Obligations. Purchaser assumes responsibility for and will pay, perform and/or otherwise discharge when due those Liabilities (including any Liabilities arising in respect of Taxes) arising out of or in connection with or related to the Transferred Assets from and after the Closing Date as set forth in Schedule 2.3 (collectively, the “**Assumed Liabilities**”), including all liabilities and expenses arising from the assignment of the Transferred IP Rights hereunder, and following the Closing Date, the ownership and use of the Transferred IP Rights and the filing, prosecution, maintenance and enforcement of the Licensed

Patent Rights. For the avoidance of doubt, the Parties hereby acknowledge and agree that any and all current and future Liabilities of Auspex or any of its Affiliates under the [***] Agreement will be Excluded Liabilities, including that Auspex and its Affiliates shall retain the obligation to pay to [***] as provided in [***] of the [***] Agreement with respect to which Auspex shall retain and may apply against such payment obligation [***]. The Periodic Reports furnished to Auspex by Purchaser with respect to sales of Product pursuant to Section 2.6(e) shall be in form and substance sufficient to enable Auspex [***] under the [***] Agreement in a timely manner.

2.4. Purchase Price for Transferred Assets. On the terms and subject to the conditions set forth herein, in consideration for the sale and transfer of the Transferred Assets to Purchaser, in addition to the assumption of the Assumed Liabilities, Purchaser shall pay to an account designated by Auspex, (i) on the Closing Date, an aggregate one-time, non-refundable payment in the amount of [***] (the “**Upfront Payment**”), (ii) the Milestone Payments as and when due and payable pursuant to Section 2.5; and (iii) the Royalties as and when due and payable pursuant to Section 2.6 (collectively, the “**Purchase Price**”), in each case by wire transfer of immediately available funds into an account designated by Auspex in writing, which designation shall be made for the Upfront Payment not less than [***] prior to the Closing Date.

2.5. Milestones. As a part of the consideration for Auspex’s sale of the Transferred Assets to Purchaser hereunder, Purchaser shall pay to Auspex the following one-time milestone payments (the “**Milestone Payments**”) upon the first achievement of each of the events set forth on the table below (the “**Milestone Events**”) by the Product. Purchaser shall pay the relevant Milestone Payment within [***] of such achievement by Purchaser, its Affiliates or licensees. Such payments shall be non-refundable and non-creditable.

<u>Milestone Event</u>	<u>Milestone Payment (in US Dollars)</u>
[***]	\$ [***]
[***]	\$ [***]
[***]	\$ [***]
[***]	\$ [***]
[***]	\$ [***]
[***]	\$ [***]
[***]	\$ [***]
[***]	\$ [***]
[***]	\$ [***]

2.6. Royalties.

(a) As a part of the consideration for Auspex’s sale of Transferred Assets to Purchaser hereunder, Purchaser shall pay to Auspex royalties (“**Royalties**”) at the graduated royalty rates specified in the table below with respect to the aggregate annual worldwide Net Sales of all Products by Purchaser and its Affiliates and licensees in the Territory in a Calendar Year during the Royalty Term:

<u>Royalties</u>	<u>Royalty Rate</u>
For that portion of Calendar Year Net Sales less than or equal to \$[***]:	[***]% of Net Sales
For that portion of Calendar Year Net Sales > \$[***] and ≤ \$[***]:	[***]% of Net Sales
For that portion of Calendar Year Net Sales > \$[***]:	[***]% of Net Sales

(b) Upon sale by a Third Party of a Generic Product in a country, the Royalty due to Auspex will be reduced by [***] for sales of Product made in that country, for as long as the Generic Product is sold in such country. If for any reason the sale of Generic Product in the country ceases, Purchaser shall resume paying Auspex the full Royalty without the offset set forth herein.

(c) If it is necessary for Purchaser to obtain a license under intellectual property rights of a Third Party in a particular country in order to research, develop, manufacture, have manufactured, market, make use, offer for sale, sell, export and import for sale, or otherwise commercialize the Product in that country respecting which a Royalty is payable to Auspex hereunder, then, in that event, the Royalty payments payable to Auspex under this Section 2.6 respecting the sale of the Product in such country to which the Third Party intellectual property rights apply shall be reduced by an amount equal to [***] of any royalties paid to such Third Party in consideration for such rights relating to such Product.

(d) In no event shall the cumulative reductions under Sections 2.6(b) and 2.6(c) reduce the royalties otherwise due to Auspex by more than [***] in any Calendar Year.

(e) No later than [***] of the Calendar Quarter in which Purchaser plans to conduct the First Commercial Sale of a Product in any country in the Territory, Purchaser shall deliver to Auspex, for the purposes of informing Auspex' financial planning, a non-binding, good-faith rolling sales forecast of the Product for the next [***] (the "**Sales Projections**"). With respect to the Sales Projections, Purchaser shall have the right to provide pan-European Union sales forecasts rather than country-by-country forecasts. Within [***] after the end of each Calendar Quarter commencing from the First Commercial Sale of a Product, Purchaser shall furnish Auspex with a quarterly report ("**Periodic Report**") detailing, at a minimum, the following information for the applicable Calendar Quarter, each listed by Product and by country of sale: (i) gross amounts invoiced for all sales of Products for which Royalties are owed Auspex hereunder for such Calendar Quarter, (ii) deductions by type taken from Net Sales as specified in Section 1.1, (iii) Net Sales, (iv) Royalties and Milestone Payments owed to Auspex, listed by category, (v) the currency in which the sales were made, including the computations for any applicable currency conversions pursuant to Section 2.6(g), (vi) all other data enabling the Royalties payable to be calculated accurately, and (vii) a detailed summary of progress against each development and commercial Milestone, an estimate of the timing of the achievement of the next development and commercial Milestone and applicable Sales Projections on a country-by-country basis. Once the First Commercial Sale of a Product has occurred, Periodic Reports shall be provided to Auspex whether or not Royalties or Milestone Payments are payable for a particular Calendar Quarter. In addition to the foregoing, upon Auspex's reasonable request, Purchaser shall provide to Auspex such other information as may be reasonably requested by Auspex, and shall otherwise cooperate with Auspex as reasonably necessary, to enable Auspex to verify Purchaser's compliance with the payment and related obligations under this Agreement, including verification of the calculation of amounts due to Auspex under this Agreement and of all financial information provided or required to be provided in the reports.

(f) On the date prescribed for the submission of each Periodic Report, Purchaser shall pay the Royalties due to Auspex for the reported period. All payments under this Agreement shall be computed and paid in United States Dollars.

(g) With respect to Net Sales invoiced in United States Dollars, the Net Sales and the amounts due to Auspex hereunder shall be expressed in United States Dollars. With respect to Net Sales invoiced in a currency other than United States Dollars, the Net Sales shall be expressed in the domestic currency of the entity making the sale, together with the United States Dollars equivalent, calculated based on the average conversion rate existing in the United States (as reported in The Wall Street Journal) for the Calendar Quarter for which remittance is made for Royalties. For purposes of calculating the Net Sales thresholds set forth in Section 2.6, the aggregate Net Sales with respect to each Calendar Quarter within a Calendar Year shall be calculated based on the currency exchange rates for the Calendar Quarter in which such Net Sales occurred, in a manner consistent with the exchange rate procedures set forth in the immediately preceding sentence.

2.7. VAT; Withholding and Similar Taxes. All amounts to be paid to Auspex pursuant to this Agreement are exclusive of any applicable taxes, including value added tax. Purchaser shall add taxes if and as required by law, to all such amounts. If applicable Laws require that taxes be withheld from any amounts due to Auspex under this Agreement, Purchaser shall gross up its payments to Auspex by any such amount. Auspex shall cooperate with Purchaser in claiming exemptions from such deductions or a reduced withholding tax rate as allowable under any agreement or treaty from time to time in effect.

2.8. Records. Purchaser shall keep, and shall require its Affiliates and licensees to keep, books of account that are complete and correct in all material respects and in accordance with GAAP enabling the Royalties and Milestone Payments, and all corresponding deductions, to be calculated accurately. Purchaser shall, and shall require and cause its Affiliates and licensees to, retain the such books of account for [***] after the end of each Calendar Year during the Royalty Term and, if this Agreement is terminated for any reason whatsoever, for [***] after the end of the calendar year in which such termination becomes effective, and shall be kept at each of their principal place of business and shall be open for inspection and audit in accordance with Section 2.9 below.

2.9. Audit. Auspex shall be entitled to appoint, at its sole expense, a certified public accountant or other professional as appropriate and reasonably acceptable to Purchaser (the “**CPA Representatives**”) to inspect, not more than once a Calendar Year, during normal business hours Purchaser’s and its Affiliates’ books and records contemplated by Section 2.8 above, including all books of account, records and other relevant documentation to the extent relevant or necessary for the sole purpose of verifying compliance with the payment and related obligations under this Agreement, the calculation of amounts due to Auspex under this Agreement and of all financial information required to be provided in the Periodic Reports, provided that Auspex shall coordinate such inspection with Purchaser or its Affiliate (as the case may be) reasonably in advance. In addition, Auspex may require that Purchaser, through the CPA Representatives, inspect, at Auspex’s expense, during normal business hours the books and records contemplated by Section 2.8 above, including all applicable books of account, records and other relevant documentation of any licensees, not more than once a Calendar Year, to the extent relevant or necessary for the sole purpose of verifying the compliance with the payment obligations under this Agreement, the calculation of amounts due to Auspex under this Agreement and of all financial information provided in the Periodic Reports, and Purchaser shall use its commercially reasonable efforts to cause such inspection to be performed. Prior to making any inspection or audit pursuant to this Section 2.9, the CPA Representatives shall sign a confidential agreement in form and substance reasonably acceptable to Purchaser. The Parties shall reconcile any underpayment or overpayment within [***] after the CPA Representatives deliver the results of the audit to Auspex and Purchaser. The results of such inspection, if any, shall be binding on both Parties. Any underpayment shall be subject to interest in accordance with the terms of Section 2.11, below. Any overpayments shall be fully creditable against amounts payable in subsequent payment periods during the Royalty Term, or if such overpayments are identified following the Royalty Term, then such overpayments shall be refunded within [***] of receipt of the corresponding audit results. In the event that any inspection of Purchaser aforesaid reveals any underpayment by Purchaser to Auspex in respect of any Calendar Quarter of this Agreement in an amount exceeding [***] of the amount actually paid by Purchaser to Auspex in respect of such Calendar Quarter, then Purchaser shall pay the reasonable out-of-pocket cost of such inspection. Any underpayments or overpayments under this Section 2.9 shall be subject to the currency exchange provisions set forth in Section 2.6(g) as applied to the Calendar Quarter during which the payment obligations giving rise to such underpayment or overpayment were incurred by Purchaser.

2.10. Blocked Payments. In the event that, by reason of Applicable Law in any country, it becomes impossible or illegal for Purchaser to transfer, or have transferred on its behalf, payments owed Auspex hereunder, Purchaser shall promptly notify Auspex of the conditions preventing such transfer and such payments shall be deposited in local currency in the relevant country to the credit of Auspex in a recognized banking institution designated by Auspex or, if none is designated by Auspex within a period of [***], in a recognized banking institution selected by Purchaser, as the case may be, and identified in a written notice given to Auspex.

2.11. Interest Due. Any sum of money due to Auspex which is not duly paid on time shall bear interest from the due date of payment until the actual date of payment at the rate of [***], or the maximum applicable legal rate, if less, computed for the actual number of days the payment was past due. If the LIBOR rate is no longer published, the Parties will agree upon another internationally recognized rate which has historically been substantially equivalent to the one (1) month LIBOR rate and utilize such rate retroactively to such time as the rate was no longer available.

2.12. Diligence. Purchaser shall use Commercially Reasonable Efforts, at Purchaser's sole expense and in its sole discretion, to develop, obtain regulatory approval for, and commercialize the Product in at least one of (i) the U.S., (ii) one or more countries of the EU or (iii) Japan. Purchaser shall deliver to Auspex no later than the end of the first calendar quarter of each calendar year until FDA approval for the first Product a summary of its development efforts for the prior twelve (12) months (each such report, an "**Annual Report**").

2.13. Certain Costs.

(a) All costs and fees associated with transferring to Purchaser or one of its Affiliates the Transferred IP Rights conveyed to Purchaser hereunder shall be borne by Purchaser.

(b) All costs and expenses associated with removing and moving any Transferred Asset to a location designated by Purchaser shall be borne and paid solely by Purchaser when due.

ARTICLE III

CLOSING

3.1. Closing.

(a) The Closing shall take place simultaneously with the execution of this Agreement (the "**Closing Date**") at the offices of Sills Cummis & Gross P.C., One Riverfront Plaza, Newark, New Jersey 07102 (including any Persons connected by remote access to the Closing). The Closing shall be deemed to occur and be effective as of 12:01 am on the Closing Date.

(b) At the Closing, Auspex shall deliver, or cause to be delivered, to Purchaser (and/or its Affiliates in the case of Section 3.1(b)(ii)) the instruments and documents set forth below:

(i) executed Ancillary Agreements, each dated as of the Closing Date, with the Neuland Assignment Agreement countersigned by Neuland Laboratories Limited; and

(ii) the Transferred Assets.

(c) At the Closing, Purchaser shall deliver to Auspex (i) the Upfront Payment, by wire transfer in accordance with Section 2.4 and (ii) the instruments and documents set forth below:

(i) executed Ancillary Agreements, each dated as of the Closing Date.

ARTICLE IV **REPRESENTATIONS AND WARRANTIES**

4.1. Representations and Warranties of Auspex. Auspex hereby represents, warrants and covenants to Purchaser as follows:

(a) Organization. Auspex is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware. Auspex is authorized to do business under the laws of all jurisdictions in it is required to be so authorized, except as would not, individually or in the aggregate, have a Material Adverse Effect.

(b) Corporate Authority. Auspex has the corporate authority to enter into this Agreement and to perform its obligations hereunder.

(c) No Conflict. Except as set forth on Schedule 4.1(c), neither the execution and delivery of this Agreement or the Ancillary Agreements by Auspex, nor the performance by Auspex hereunder and/or thereunder will (i) conflict with or result in any violation or breach of, or constitute (with or without due notice or lapse of time or both) a default under any of the terms or conditions of its certificate or articles of incorporation or bylaws, or any note, bond, mortgage, indenture, license, Contract or other instrument or obligation to which it or any of its Affiliates is a Party or by which it or any of its Affiliates or any of their respective properties or assets may be bound, (ii) violate any statute, law, rule, regulation, writ, injunction, judgment, order or decree of any court, administrative agency or Governmental Authority binding on it or any of its Affiliates or any of their respective properties or assets, or (iii) result in the imposition or creation of any Encumbrance other than a Permitted Encumbrance upon any Transferred Asset.

(d) Governmental Authorization. Except as set forth on Schedule 4.1(d), the execution and delivery of this Agreement and the other Transaction Documents by Auspex, and the consummation of the Transactions by Auspex, do not require any consent or approval of, or any notice to or other filing with, any Governmental Authority, except for consents, approvals, notices and filings the failure of which to obtain would not, individually or in the aggregate, have a Material Adverse Effect.

(e) Legal and Binding Nature. This Agreement is, and each Ancillary Agreement signed at Closing will be, a legal, valid and binding agreement of Auspex enforceable in accordance with its terms, except as may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws and equitable principles related to or limiting creditors' rights generally and by general principles of equity.

(f) Title to Transferred Assets. Auspex has good and valid title to all of the Transferred Assets free and clear of all Encumbrances, other than Permitted Encumbrances.

(g) Litigation, etc.

(i) Except as set forth on Schedule 4.1(g), as of the date hereof, there is no material litigation pending or, to Auspex's knowledge, threatened against Auspex before any Governmental Authority, and to Auspex's knowledge, there are no material investigations, inquiries, audits, examinations or findings of deficiency or noncompliance pending or threatened by or before any Governmental Authority, in each case, that (A) involves or otherwise relates to the Compound or the Product, including the development, packaging, labeling, storage, import, export, use, marketing, distribution and sale of the Product in the Territory and the manufacture of the Compound or the Products (the "**Product Business**") or the Transferred Assets; or (B) challenges or, if resolved against Auspex or any of its Affiliates, would prevent, delay or make illegal the transactions contemplated by this Agreement. There is no order or judgment of a Governmental Authority to which Auspex or any of its Affiliates is subject that involves or otherwise relates to the Product Business or the Transferred Assets or that prevents, delays or makes illegal the transactions contemplated by this Agreement.

(ii) Neither Auspex nor any of its Affiliates has, in the [***] prior to the date hereof, received any written notice, claim or complaint from any other Person alleging a violation of, or failure to comply with, or any Liability under, any Applicable Laws relating to the Product Business or the Transferred Assets as a result of Auspex's or any of its Affiliates' operation of the Product Business.

(h) Debarred Entities. Auspex has not used, and is not currently using, in any capacity, in connection with the performance of Auspex's duties or obligations hereunder, the services of any Person that has been debarred or subject to debarment under 21 U.S.C. § 335(a) or (b) or otherwise disqualified or suspended from performing services or subject to any restrictions or sanctions by the FDA (a "**Debarred Entity**"). Auspex further represents that neither Auspex nor any of its officers, employees or Affiliates providing services in connection with the performance of Auspex's obligations hereunder have been (i) threatened to be debarred, or (ii) convicted of a crime for which a Person can be debarred under 21 U.S.C. § 335(a) or (b). Auspex shall immediately notify Purchaser in writing if either Auspex or any Person who is performing services on its behalf hereunder is or becomes a Debarred Entity or if any action, claim, investigation, or other legal or administrative proceeding is pending or, to the best of Auspex's knowledge, threatened, that would make Auspex or any Person performing services hereunder a Debarred Entity.

(i) Conduct of the Product Business. During the prior [***], the Product Business has been (i) exclusively managed by Auspex or its Affiliates; and (ii) under Auspex's or its Affiliates' exclusive control.

(j) Status of Transferred Assets. The Transferred Assets and the Shared Assets are all of the legal rights and assets owned or controlled by Auspex as of the Effective Date which relate to the development, manufacture and use of the Compound and the development, manufacture, use, marketing, distribution and sale of the Products in the Territory.

(k) Contracts. Auspex has made available to Purchaser true and complete copies of all Material Contracts. Except as disclosed in Schedule 4.1(k), (a) each Material Contract is valid and binding in all material respects on and, to Auspex's knowledge, the other party thereto, and is in full force and effect in accordance with its terms, subject to bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or similar laws affecting creditors' rights generally or by general principles of equity (regardless of whether enforcement is sought in a proceeding in equity or law), and (b) neither Auspex nor, to Auspex's knowledge, any other party thereto is in material breach of, or material default under, any Material Contract, and no event has occurred that, with the giving of notice or lapse of time or both, would constitute a material breach or material default thereunder.

(l) Compliance with Law.

(i) Auspex and its Affiliates, with respect to the operation of the Product Business or the ownership of and use of the Transferred Assets, are in compliance in all material respects with all Applicable Laws in each country in the Territory in which such activities are being conducted, including (i) any Applicable Laws governing the research, development, approval, manufacture, pricing, pharmacovigilance, recordkeeping or Marketing of drugs and the purchase or prescription of or reimbursement for drugs by any Governmental Authority, private health plan or entity, or individual; and (ii) all Applicable Laws regulating the pharmaceutical industry, including the federal Anti Kickback Statute (42 U.S.C. § 1320a-7b(b)), the criminal False Claims Act (42 U.S.C. § 1320a-7b(a)), the civil False Claims Act (31 U.S.C. §§ 3729 *et seq.*), the Civil Monetary Penalties Law (42 U.S.C. § 1320a-7a), the federal Physician Payment Sunshine Act (42 U.S.C. § 1320a-7h) and similar state laws, the federal health care program exclusion laws (42 U.S.C. § 1320a-7), the Controlled Substances Act (21 U.S.C. § 801 *et seq.*), the Health Insurance Portability and Accountability Act of 1996 (42 U.S.C. § 1320d *et seq.*) as amended by the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. §§ 17921 *et seq.*), the Foreign Corrupt Practices Act (15 U.S.C. §§ 78dd-1 *et seq.*), and the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010, in each case except for such noncompliance that would not reasonably be expected to have a material adverse effect on the Product Business.

(ii) Auspex and its Affiliates possess, and are in compliance in all material respects with, all material approvals, licenses and other authorizations from applicable Governmental Authorities (other than Product Approvals, which are the subject of Section 4.1(l)(i)) necessary for the conduct of the Product Business as it is currently conducted and the ownership of or use of the Transferred Assets.

(iii) Neither Auspex nor any of its Affiliates have made any voluntary or involuntary self-disclosure to any Governmental Authority or representative thereof regarding any material non-compliance with any Applicable Law applicable to the Compound, the Products or the Transferred Assets, which non-compliance remains uncured.

(m) Regulatory Matters.

(i) All INDs and other Regulatory Applications relating to the Compound and/or the Products are listed on Schedule B.

(ii) During the past [***], neither Auspex nor any of its Affiliates has received any written notice that the FDA or any other Governmental Authority or Regulatory Authority has commenced, or threatened to initiate, any action to enjoin production at any facility at which the Compound or any Product is manufactured. During the past [***], Auspex and its Affiliates have not failed to pay any Regulatory Fees or timely file with the applicable Governmental Authority or Regulatory Authority any required filings, declarations, listings, registrations, reports or submissions that are material to the development and manufacture of the Compound and/or the Products as currently conducted in each country in the Territory, including adverse event reports.

(n) Intellectual Property.

(i) Auspex has the right to transfer the Transferred IP Rights and to license to Purchaser the Licensed Patent Rights and the intellectual property rights included in the Shared Assets. None of the Transferred IP Rights, Licensed Patent Rights or intellectual property rights included in the Shared Assets is in the possession, custody, or control of any Third Party. Other than the Transferred IP Rights, the Licensed Patent Rights and the intellectual property rights included in the Shared Assets, neither Auspex nor any of its Affiliates has any material intellectual property rights necessary to market, distribute and sell the Products in the Territory or to manufacture, make or have made the Compound or the Products in the Territory.

(ii) To Auspex's knowledge, no Third Party has interfered with, infringed upon, misappropriated, or otherwise come into conflict with any of the Transferred IP Rights or the Licensed Patent Rights in any material respect. Neither Auspex nor any of its Affiliates has received any charge, complaint, claim, demand, or notice alleging any such material interference, infringement, misappropriation, or violation in the Territory (including any claim that Auspex or any of its Affiliates must license any intellectual property rights of any Third Party or refrain from using Transferred IP Rights or the Products).

(iii) Neither Auspex nor any of its Affiliates owns, holds or controls any trademarks, copy-rights or domain names which relate to or cover the Compound or any Product.

(o) Taxes. Neither Auspex nor any of its Affiliates has any Liability for Taxes for which Purchaser would reasonably be expected to become liable or that would reasonably be expected to adversely affect (i) the Transferred Assets; and (ii) Purchaser's right to use or enjoy (free and clear of any Encumbrances, including liens for Taxes) any Transferred Asset, the Compound or any Product.

(p) No Brokers. Neither Auspex nor any of its Affiliates has any liability or obligation to pay any fees or commissions to any broker, finder or other agent with respect to this Agreement for which Purchaser could become liable or obligated or which could result in an Encumbrance being filed against any Transferred Asset.

(q) No Additional Representations.

(i) Except for the representations and warranties expressly set forth in this Agreement or any certificate or instrument delivered hereunder, Auspex and each of its Affiliates expressly disclaim any representations or warranties of any kind or nature, express or implied, including any representations or warranties as to Auspex or its Affiliates, as applicable, their respective businesses and affairs or the transactions contemplated by this Agreement.

(ii) Without limiting the generality of the foregoing, and except as expressly set forth in this Section 4.1, neither Auspex, nor its Affiliates, nor any of their employees, officers, directors or equityholders, has made, and shall not be deemed to have made, any representations or warranties in the materials relating to the business and affairs of Auspex or its Affiliates, as applicable, that have been made available to Purchaser, including due diligence materials, or in any presentation of the business and affairs of Auspex or its Affiliates, as applicable, by the management of Auspex or its Affiliates, as applicable, or others in connection with the transactions contemplated hereby, and no statement contained in any of such materials or made in any such presentation shall be deemed a representation or warranty hereunder or otherwise or deemed to be relied upon by Purchaser in executing, delivering and performing this Agreement and the transactions contemplated hereby.

4.2. Representations and Warranties of Purchaser. Purchaser hereby represents, warrants and covenants to Auspex as follows:

(a) Organization. Purchaser is a limited liability company duly organized, validly existing and, if applicable, in good standing under the laws of the State of Delaware. Purchaser is authorized to do business under the laws of all jurisdictions in which it is required to be so authorized, except as would not, individually or in the aggregate, have a material and adverse effect on the ability of Purchaser to consummate the Transactions.

(b) Limited Liability Company Authority. Purchaser has the limited liability company authority to enter into this Agreement and to perform its obligations hereunder.

(c) No Conflict. Neither the execution and delivery of this Agreement by Purchaser nor its performance hereunder will (i) conflict with or result in any violation or breach of, or constitute (with or without due notice or lapse of time or both) a default under any of the terms or conditions of its certificate of incorporation or bylaws, or under any note, bond, mortgage, indenture, license, agreement or other instrument or obligation to which it is a Party or by which it or any of its properties or assets may be bound, or (ii) violate any statute, law, rule, regulation, writ, injunction, judgment, order or decree of any court, administrative agency or Governmental Authority binding on it or any of its properties or assets.

(d) Governmental Authorization. Except as set forth on Schedule 4.2(d), the execution and delivery of this Agreement and the other Transaction Documents by Purchaser, and the consummation of the Transactions by Purchaser, do not require any consent or approval of, or any notice to or other filing with, any Governmental Authority, except for consents, approvals, notices and filings the failure of which to obtain would not, individually or in the aggregate, have a material and adverse effect on the ability of Purchaser to consummate the Transactions.

(e) Legal and Binding Nature. This Agreement is a legal, valid and binding agreement of Purchaser, enforceable in accordance with its terms, except as may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws and equitable principles related to or limiting creditors' rights generally and by general principles of equity.

(f) Litigation. There is no suit, claim, action, investigation or proceeding pending or, to the knowledge of Purchaser, threatened against Purchaser or any of its Affiliates which if adversely determined would materially interfere with the ability of Purchaser to perform its obligations hereunder.

(g) Debarred Entities. Purchaser has not, is not currently and will not in the future use, in any capacity, in connection with the performance of its duties or obligations hereunder, the services of any Debarred Entity. Purchaser further represents that neither Purchaser nor any of its officers, employees or Affiliates have been (i) threatened to be debarred, or (ii) convicted of a crime for which a person can be debarred under 21 U.S.C. § 335(a) or (b). Purchaser shall immediately notify Auspex in writing if either Purchaser or any Person who is performing services on its behalf hereunder is or becomes a Debarred Entity or if any action, claim, investigation, or other legal or administrative proceeding is pending or, to the best of Purchaser's knowledge, threatened, that would make Purchaser or any Person performing services hereunder a Debarred Entity.

(h) No Brokers. Neither Purchaser nor any of its Affiliates has any liability or obligation to pay any fees or commissions to any broker, finder or other agent with respect to this Agreement for which Auspex could become liable or obligated or which could result in an Encumbrance being filed against any Transferred Asset.

(i) Inspection; No Other Representations. Purchaser has undertaken such investigation and has been provided with and has evaluated such documents and information as it has deemed necessary to enable it to make an informed and intelligent decision with respect to the execution, delivery and performance of this Agreement and the transactions contemplated hereby. Purchaser acknowledges and agrees that it is relying exclusively on the representations set forth in Section 4.1 and its own examination and investigation of the Compound and the Products and that it is not relying on any other statements or documents.

ARTICLE V

ADDITIONAL AGREEMENTS

5.1. Condition of the Transferred Assets.

(a) As of the Closing, Purchaser and its Representatives will have made all inspections and investigations relating to the Compound, the Products and the Transferred Assets deemed necessary or desirable by Purchaser. Except as specifically set forth in this Agreement, Purchaser acknowledges and agrees that (a) it is purchasing the Transferred Assets based on the results of such inspections and investigations, and not on any representation or warranty of Auspex or any of its Affiliates not expressly set forth in this Agreement or the Ancillary Agreements and (b) the Transferred Assets are sold "as is, where is" and Purchaser accepts the Transferred Assets

in the condition that they are in and at the place where they are located on the Closing Date. In light of such inspections and investigations, and the representations and warranties expressly made to Purchaser by Auspex in this Agreement and the certificates and other documents delivered pursuant hereto, PURCHASER AGREES THAT THE REPRESENTATIONS AND WARRANTIES GIVEN HEREIN BY AUSPEX ARE IN LIEU OF, AND PURCHASER HEREBY EXPRESSLY WAIVES ALL RIGHTS TO, ANY IMPLIED WARRANTIES THAT MAY OTHERWISE BE APPLICABLE BECAUSE OF THE PROVISIONS OF THE UNIFORM COMMERCIAL CODE OR ANY OTHER LAWS, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

(b) Any claims Purchaser may have for breach of representation or warranty shall be based solely on the representations and warranties of Auspex expressly set forth in this Agreement and the Ancillary Agreements and the certificates and other documents delivered pursuant hereto or thereto.

5.2. Regulatory Commitments.

From and after the Closing Date, Purchaser will assume control of, and responsibility for, all costs and liabilities arising from or related to any commitments or obligations to any Governmental Authority involving the Compound and/or Products (“**Regulatory Commitments**”) only to the extent arising from or relating to events occurring after the Closing Date.

5.3. Further Action; Consents; Filings.

Upon the terms and subject to the conditions hereof, each of Purchaser and Auspex will use commercially reasonable efforts to (i) obtain from the requisite Governmental Authorities any consents, licenses, permits, waivers, approvals, authorizations or orders required to be obtained or made in connection with the authorization, execution and delivery of this Agreement and the consummation of the transactions contemplated by this Agreement and (ii) make all necessary filings, and thereafter make any other advisable submissions, with respect to this Agreement and the transactions contemplated by this Agreement required under any Applicable Laws.

5.4. Bulk Transfer Laws. Purchaser hereby waives compliance by Auspex with the provisions of any so called “bulk transfer law” of any jurisdiction in connection with the transfer of the Transferred Assets to Purchaser, it being understood that any Liabilities arising out of the failure of Auspex to comply with the requirements of any provisions of any so-called “bulk transfer law” of any jurisdiction shall be treated as Excluded Liabilities.

5.5. Insurance. As of the Closing Date, the coverage under all insurance policies of Auspex and its Affiliates shall continue in force only for the benefit of Auspex and its Affiliates, and not for the benefit of Purchaser or any of its Representatives. As of the Closing Date, Purchaser agrees to arrange for its own insurance policies with respect to the Transferred Assets covering all periods and agrees not to seek, through any means, to benefit from any of Auspex’s or its Affiliates’ insurance policies which may provide coverage for claims relating in any way to the Transferred Assets.

5.6. Support. Following the Closing, Purchaser and its Affiliates, on the one hand, and Auspex, on the other hand, shall reasonably cooperate with each other in the defense or settlement of any Liabilities or lawsuits involving the Transferred Assets, the Compound, the Products, this Agreement or the Ancillary Agreements, in each case for which the other Party has responsibility under this Agreement, by providing the other Party and such other Party's legal counsel reasonable access to employees, records, documents, data, equipment, facilities, products, parts, prototypes and other information relating primarily to the Transferred Assets, the Compound or the Products, as such other Party may reasonably request, to the extent maintained or under the possession or control of the requested Party; provided, however, that such access shall not unreasonably interfere with the business of Purchaser or Auspex, or any of their respective Affiliates; provided, further, that either Party may restrict the foregoing access to the extent that (a) such restriction is required by Applicable Law, (b) such access or provision of information would reasonably be expected to result in a violation of confidentiality obligations to a third party or (c) disclosure of any such information would result in the loss or waiver of the attorney-client privilege. The requesting Party shall reimburse the other Party for reasonable out-of-pocket expenses paid by the other Party to Third Parties in performing its obligations under this Section 5.6.

5.7. Payments from Third Parties. In the event that, on or after the Closing Date, either Party shall receive any payments or other funds that are rightly due and payable to the other pursuant to the terms of this Agreement or any of the other Transaction Documents, then the Party receiving such funds shall promptly forward such funds to the proper Party. The Parties acknowledge and agree that there is no right of offset regarding such payments and a Party may not withhold funds received from Third Parties for the account of the other Party in the event there is a dispute regarding any other issue under any of the Transaction Documents.

5.8. Resale Exemption Certificates and Transfer Taxes. At the Closing (or within such reasonable time thereafter as may be necessary to perfect the resale or other exemption certificates), Purchaser shall deliver to Auspex fully completed and executed resale exemption certificates or other applicable exemption certificates for all jurisdictions identified by Auspex prior to Closing as jurisdictions in which inventory is to be transferred and for which resale exemption certificates are necessary to comply with Applicable Laws; provided that if any such exemption certificates are not available in a jurisdiction or not sufficient to avoid the imposition of sales or use Taxes, such Taxes shall be equally shared between the Parties. Auspex and Purchaser further agree that any Transfer Taxes (and related interest and penalty) other than those described in the preceding sentence assessed by any jurisdiction in connection with the transactions contemplated by this Agreement shall be shared equally between the Parties.

5.9. Payments Under Transferred Contracts.

(a) If Auspex or its Affiliates receives any deposit or payment prior to the Closing that relates to obligations under any Transferred Contract to be performed or satisfied after the Closing by Purchaser, then Auspex shall pay to Purchaser, within [***] following the Closing Date, an amount equal to the portion of such deposit or payment in advance that relates to such obligations to be performed after the Closing.

(b) If Auspex or its Affiliates receives any good or service prior to the Closing under any Transferred Contract that is billed to Purchaser after the Closing, upon request and presentation of reasonable supporting documentation, Auspex shall reimburse Purchaser for the amount of such payment within [***] following the date of such request.

(c) If Auspex or its Affiliates makes any deposit or payment prior to the Closing in respect of supplies of goods not received prior to the Closing under any Transferred Contract, Purchaser shall reimburse to Auspex or its Affiliate, within [***] following the Closing Date, an amount equal to the portion of such deposit or payment that relates to the goods to be received after the Closing by Purchaser.

5.10. No Patent Challenge; Covenant Not to Sue. Notwithstanding anything to the contrary contained in this Agreement or otherwise, Auspex on behalf of itself and its Affiliates covenants and agrees (i) not to challenge or contest the validity or enforceability of any of the intellectual property rights (including the Patents) included in the Transferred Assets and (ii) not to assert any claim or initiate any legal or other action against Purchaser or its Affiliates based on any intellectual property rights or other technology now owned or hereafter acquired by Auspex or its Affiliates to prohibit or otherwise adversely affect the continued development or commercialization of any Products.

5.11. Further Assurances. Each Party agrees, from and after the Closing, upon the reasonable request of the other Party, and at the expense of the requesting Party, to make, execute and deliver any or all documents or instruments of any kind or character, and to perform all such other actions, that may be necessary or proper and reasonable to effectuate, confirm, perform or carry out the terms and provisions of this Agreement.

ARTICLE VI

INDEMNIFICATION AND LIMITATIONS OF LIABILITY

6.1. Indemnification by Auspex. Subject to the limitations set forth herein, including Sections 6.4 and 6.5, Auspex shall indemnify and hold harmless each of Purchaser and its Affiliates, and the directors, officers, stockholders, employees and agents of such entities and the successors and assigns of any of the foregoing (the “**Purchaser Indemnitees**”), from and against any and all losses, Liabilities, damages, penalties, fines, costs and expenses (including reasonable attorneys’ fees) (“**Losses**”) from any claims, Actions, suits or proceedings (“**Claims**”), including those brought by a Third Party (a “**Third Party Claim**”) incurred by any Purchaser Indemnitee, arising from, or occurring as a result of (i) any breach by Auspex of any of its representations and warranties set forth in this Agreement other than Fundamental Reps; (ii) any breach by Auspex of any Fundamental Reps; (iii) any breach by Auspex of its covenants set forth this Agreement; or (iv) any and all Excluded Liabilities.

6.2. Indemnification by Purchaser. Subject to the limitations set forth herein, including Sections 6.4 and 6.5, Purchaser shall indemnify and hold harmless each of Auspex and its Affiliates and the directors, officers, shareholders, employees and agents of such entities and the successors and assigns of any of the foregoing (the “**Auspex Indemnitees**”), from and against any and all Losses (including Losses arising from Claims, including Third Party Claims) incurred by any Auspex Indemnitee, arising from, or occurring as a result of: (i) any breach by Purchaser of its representations and warranties other than Fundamental Reps set forth in this Agreement; (ii) any breach by Purchaser of any Fundamental Reps; (iii) any breach by Purchaser of its covenants set forth this Agreement; or (iv) any and all Assumed Liabilities.

6.3. Procedure. All Claims for indemnification under this Article VI shall be asserted and resolved as follows:

(a) In the event that any Person entitled to indemnification hereunder (the “**Indemnitee**”) has a Claim against any Party obligated to provide indemnification pursuant to Sections 6.1 or 6.2 (the “**Indemnitor**”) arising from a Third Party Claim, the following provisions shall apply:

(i) The Indemnitee shall with reasonable promptness notify the Indemnitor of such Third Party Claim, specifying the nature of such Third Party Claim and the amount or the estimated amount thereof to the extent then feasible (which estimate shall not be conclusive of the final amount of such Third Party Claim) (the “**Claim Notice**”). The Indemnitee’s failure to give reasonably prompt notice as required by this Section 6.3 of any Third Party Claim which may give rise to a right of indemnification hereunder shall not relieve the Indemnitor of any liability which the Indemnitor may have to the Indemnitee, except to the extent the failure to give such notice materially and adversely prejudiced the Indemnitor.

(ii) If any Indemnitee asserts a Third Party Claim, the Indemnitor shall, within [***] from delivery of the Claim Notice (the “**Notice Period**”), notify the Indemnitee (A) whether or not such Indemnitor disputes the liability to the Indemnitee hereunder with respect to such Third Party Claim and (B) if such Indemnitor does not dispute such liability, whether or not the Indemnitor desires, at the sole cost and expense of the Indemnitor, to defend against such Third Party Claim, provided that, upon prior written notice to the Indemnitor, the Indemnitee is hereby authorized (but not obligated) prior to and during the Notice Period to file any motion, answer or other pleading and to take any other action which the Indemnitee reasonably shall deem necessary to protect the Indemnitee’s interests. If, and for so long as, (w) the Indemnitor notifies the Indemnitee within the Notice Period that the Indemnitor does not dispute the Indemnitor’s obligation to indemnify hereunder and desires to defend the Indemnitee against such Third Party Claim, (x) the Third Party Claim does not (1) seek equitable relief or any other non-monetary remedy against the Indemnitee or (2) involve any Governmental Authority as a party thereto and (y) an adverse resolution of the Third Party Claim would not have a material adverse effect on the goodwill or reputation of any Indemnitee or the business, operations or future conduct of any Indemnitee, then except as hereinafter provided, such Indemnitor shall have the right to defend against such Third Party Claim by appropriate proceedings with legal counsel reasonably acceptable to the Indemnitee, which proceedings shall be promptly settled or diligently prosecuted by such Party to a final conclusion; provided that, unless the Indemnitee otherwise agrees in writing, the Indemnitor may not settle any matter (in whole or in part) unless such settlement (I) includes a complete and unconditional release of the Indemnitee and its Affiliates in respect of the Third Party Claim, (II) involves no admission of wrongdoing by the Indemnitee or its Affiliates and (III) excludes any injunctive or non-monetary relief applicable to the Indemnitee or its Affiliates. If the Indemnitee desires to participate in, but not control, any such defense or settlement the Indemnitee may do so at its sole cost and expense.

(iii) If (A) the Indemnitor elects not to defend the Indemnitee against such Third Party Claim, or fails to promptly settle or diligently defend such Third Party Claim, or (B) the terms of this Agreement do not permit the Indemnitor to defend the Indemnitee against such Third Party Claim, or (C) the Indemnitee reasonably believes upon the advice of counsel that there are issues that raise actual or potential conflicts of interest between the Indemnitor and the Indemnitee, or (D) the Indemnitee has different or additional defenses available to it, then the Indemnitee, without waiving any rights against the Indemnitor, may settle or defend against any such Third Party Claim in the Indemnitee's sole and absolute discretion and the Indemnitee shall be entitled to recover from the Indemnitor the amount of any settlement or judgment and, on an ongoing basis, all Losses of the Indemnitee with respect thereto, including interest from the date such Losses were incurred; provided, however, that the Indemnitor shall not be required to indemnify the Indemnitee hereunder for any Losses incurred as a result of a settlement of such Third Party Claim if the Indemnitee did not obtain the Indemnitor's written consent to such settlement (which consent shall not be unreasonably conditioned, withheld, delayed or denied).

(b) With respect to any Claim for indemnification not involving a Third Party Claim, within [***] after receipt of a Claim Notice that does not involve a Third Party, the Indemnitor shall by written notice (the "**Response Notice**") to the Indemnitee either (i) concede liability in whole as to the claimed amount, (ii) deny liability in whole as to such claimed amount or (iii) concede liability in part and deny liability in part as to such claimed amount. If the Parties are not able to resolve any dispute over such a claim within [***] after the receipt of a Response Notice denying liability in whole or in part, such Dispute shall be subject to the decision of a neutral arbiter agreeable to both Parties.

6.4. Survival. If the Closing shall have occurred, all covenants, agreements, warranties and representations made herein or in any certificate or other document delivered pursuant hereto shall survive the Closing. Notwithstanding the foregoing, all representations, warranties, covenants and agreements made herein or in any certificate or other document delivered pursuant hereto, and all indemnification obligations under Section 6.1 and Section 6.2, with respect to any such representations, warranties, covenants and agreements, shall (a) in the case of any such representations or warranties other than Fundamental Reps, terminate and expire on, and no action or proceeding seeking damages or other relief for breach of any thereof or for any misrepresentation or inaccuracy with respect thereto, shall be commenced after, the date that is [***] after the Closing Date; provided, however, that such an action or proceeding may be commenced after such date if prior to such date a claim for indemnification with respect thereto shall have been made, with reasonable specificity, by written notice given in accordance with Section 6.3; (b) in the case of Fundamental Reps, survive until [***] after the latest date such representation or warranty is allowed to survive by the applicable statute of limitations; and (c) in the case of any such covenants or agreements, terminate and expire on, and no action or proceeding seeking damages or other relief for breach of any thereof shall be commenced after, the date that is [***] after the last date on which such covenant or agreement is to be performed; provided, however, that such an action or proceeding may be commenced after such date if prior to such date a claim for indemnification with respect thereto shall have been made, with reasonable specificity, by written notice given in accordance with Section 6.3.

6.5. Certain Limitations.

(a) Notwithstanding the other provisions of this Article VI, neither Party shall have—except for Losses arising from Third Party Claims, which are excluded from the limitations contained in this paragraph—indemnification obligations for Losses under Section 6.1 or Section 6.2, as applicable, in excess of the aggregate amount of Purchase Price paid or payable by Purchaser to Auspex under this Agreement.

(b) The amount which the Indemnitor is required to pay to, for or on behalf of the Indemnitee pursuant to this Article VI shall be reduced by any foreign, federal, state, provincial or local income Tax benefit actually realized to the Indemnitee or any of its Affiliates applicable to the indemnifiable damages in the Tax year the damages are incurred or in the immediately following Tax year.

(c) In the event any Losses by any Indemnitee are covered by insurance or any indemnity, contribution or other similar right against a Third Party, such Indemnitee agrees to use commercially reasonable efforts to seek recovery under such insurance or indemnity, contribution or similar right; provided, however, such Indemnitee shall have no obligations to commence any litigation to seek any such recovery. If the Indemnitee receives any insurance proceeds or other amounts in respect of the matter giving rise to any Claim of the Indemnitee, the Indemnitor's indemnification obligation with respect to the Claim shall be reduced by the amount of any such insurance proceeds and other amounts actually received by the Indemnitee.

6.6. Exclusive Remedy.

(a) This Article VI provides the exclusive means by which a Party may assert and remedy Claims under or with respect to this Agreement except for equitable relief as may be necessary for specific performance of this Agreement. Each Party hereby waives and releases any other remedies or claims that it may have against the other Party (or any of its Affiliates) with respect to the matters arising out of or in connection with this Agreement or relating to the Compound, the Products or the Transferred Assets, except that nothing herein shall limit the remedy of any Party hereto for fraud. With respect to any Losses arising under this Agreement, Purchaser agrees that it shall only seek such Losses from Auspex, and Purchaser hereby waives the right to seek Losses from or equitable remedies, such as injunctive relief, against any Affiliate of Auspex or any director, officer or employee of Auspex (or any of its Affiliates).

(b) Any payment made by Purchaser as the Indemnitor pursuant to this Article VI will constitute a dollar-for-dollar decrease of the Purchase Price and any payment made by Auspex as the Indemnitor pursuant to this Article VI will constitute a dollar-for-dollar increase of the Purchase Price. Each Party shall within a reasonable time, if necessary, request all amendments to its current or past Tax Returns to reflect such increase or decrease.

ARTICLE VII

CONFIDENTIAL INFORMATION

7.1. Ownership of Certain Confidential Information. Ownership of any non-public information and materials included in the Transferred Assets shall be governed by this Agreement.

7.2. Protection of Confidential Information. For [***] following the Closing Date, each Party shall treat all Confidential Information of the other Party in accordance with the requirements of this Article VII.

7.3. Permitted Use. Confidential Information of the Disclosing Party shall be kept strictly confidential by the Receiving Party and, except as expressly permitted herein, shall not be disclosed to any third Person by the Receiving Party in any manner whatsoever, in whole or in part, without first obtaining the other Party's prior written consent to such disclosure. The standard of care required of each Party in protecting the confidentiality of the other Party's Confidential Information shall be at least the same as the standard of care that the Receiving Party uses in protecting its own confidential and trade secret information, but in no event shall either Party use less than a reasonable standard of care. Except as expressly provided herein, Confidential Information may be used by the Receiving Party only for the purpose of performing this Agreement.

7.4. Authorized Disclosure. Each Party may disclose the other Party's Confidential Information (a) to its Representatives who reasonably need to know such information for the purposes of advising or assisting in connection with the performance of this Agreement; provided that, prior to disclosure of any Confidential Information hereunder to any Representative, the Receiving Party shall inform such Representative of the proprietary nature of the Confidential Information and its obligations to protect such information hereunder; (b) to any Person required by a valid order of a court of competent jurisdiction or other governmental body of a country or any political subdivision thereof of competent jurisdiction; provided that the Receiving Party shall first have given notice to the Disclosing Party of such requirement so that the Disclosing Party may seek, with the reasonable cooperation of the Receiving Party, a reasonable opportunity to quash such order or to obtain a protective order requiring that the Confidential Information and/or documents that are the subject of such order be held in confidence by such court or governmental body or, if disclosed, be used only for the purposes for which the order was issued; and (c) as otherwise required by law or regulation, in the opinion of counsel to the Receiving Party.

7.5. Excluded Information. Notwithstanding any provision herein to the contrary, the requirements of this Article VII shall not apply to any information of either Party which (a) at the time of disclosure hereunder is available to the public; (b) after the date of disclosure hereunder becomes generally available to the public, except through a breach of this Article VII by the Receiving Party or its Representatives; (c) is independently developed by the employees or agents of the Receiving Party or its Affiliates without use of or reference to the Confidential Information as demonstrated by written evidence; or (d) is received from a third Person without restriction and without breach of any agreement between such third Person and the Disclosing Party.

7.6. Obligations Upon Termination. Upon any termination of this Agreement, each Party shall immediately discontinue use of any Confidential Information of the other Party and cause all Confidential Information of the other Party in its possession to be returned to the Disclosing Party or destroyed; provided, however, that each Party shall be entitled to (a) use such Confidential Information for the performance of any of its outstanding obligations hereunder and (b) retain one copy of such Confidential Information for its record keeping purposes; provided, further, that such Party shall continue to be subject to its obligations hereunder with respect to such Confidential Information.

7.7. Rights Upon Unauthorized Use or Disclosure. Each Party agrees that the unauthorized use or disclosure of any information by the Receiving Party in violation of this Agreement will cause severe and irreparable damage to the Disclosing Party. In the event of any violation of this Article VII, the Disclosing Party is authorized and entitled to obtain from any court of competent jurisdiction injunctive relief, whether preliminary or permanent, without the necessity of proving irreparable harm or monetary damages, as well as any other relief permitted by Applicable Law. The Receiving Party agrees to waive any requirement that the Disclosing Party post a material bond as a condition for obtaining any such relief.

ARTICLE VIII

MISCELLANEOUS PROVISIONS

8.1. Successors and Assigns. Neither Party to this Agreement may assign any of its rights or obligations under this Agreement, including by sale of stock, operation of law in connection with a merger or sale of substantially all of the assets, without the prior written consent of the other Party, except that (a) Auspex may, without such consent, assign its rights or obligations to an Affiliate and (b) Purchaser may, without such consent, assign its rights to acquire the Transferred Assets hereunder, in whole or in part, to one or more of its Affiliates; provided, however, that no such assignment by Purchaser or Auspex, as applicable, shall relieve Purchaser or Auspex of any of their obligations hereunder. Any permitted assignee shall assume all obligations of its assignor under this Agreement. Any purported assignment in violation of this Section 8.1 shall be null and void.

8.2. Specific Performance. The Parties acknowledge that the failure to comply with a covenant or obligation contained in this Agreement may give rise to irreparable injury to a Party inadequately compensable in damages. Accordingly, a Party may seek to enforce the performance of this Agreement by injunction or specific performance upon application to a court of competent jurisdiction without proof of actual damage (and without requirement of posting a bond or other security).

8.3. Press Releases; Disclosures. Neither Party shall disclose the existence of this Agreement or issue any press release, publicity or other form of public written disclosure relating to this Agreement without the prior written consent of the other Party or as otherwise required by Applicable Law. For releases or announcements required by Applicable Laws, the Party making the release or announcement shall, before making any such release or announcement, afford the other Party a reasonable opportunity to review and comment. Any copy of this Agreement to be filed with the Securities and Exchange Commission or any other Governmental Authority shall be redacted to the fullest extent permitted by Applicable Laws and to the reasonable satisfaction of the Parties; provided, however, in the event that the Securities and Exchange Commission or other Governmental Authority, as applicable, objects to the redaction of any portion of this Agreement after the initial submission, the filing Party shall inform the other Party of the objections and shall in good faith respond to the objections in an effort to limit the disclosure required by the Securities and Exchange Commission or Governmental Authority, as applicable.

8.4. Schedules. The disclosure of any matter in any Schedule to this Agreement shall be deemed to be a disclosure for the purposes of the Section or subsection of this Agreement to which it corresponds in number and each other Section and subsection of this Agreement to the extent such disclosure is reasonably apparent on the face thereof to be relevant to such other Section or subsection. The disclosure of any matter in any Schedule to this Agreement shall expressly not be deemed to constitute an admission by any Party, or to otherwise imply, that any such matter is material for the purposes of this Agreement, could reasonably be expected to have a Material Adverse Effect or would not, individually or in the aggregate, have a material and adverse effect on the ability of Purchaser to consummate the Transactions, as applicable, or is required to be disclosed under this Agreement.

8.5. Expenses. Except as otherwise expressly provided in this Agreement, whether or not the Transactions are consummated, all costs and expenses incurred in connection with this Agreement and the Transactions shall be borne by the Party incurring such expenses.

8.6. Severability. Should any part or provision of this Agreement be held unenforceable or in conflict with Applicable Law, the invalid or unenforceable part or provision shall, provided that it does not go to the essence of this Agreement, be replaced with a revision which accomplishes, to the extent possible, the original commercial purpose of such part or provision in a valid and enforceable manner, and the balance of this Agreement shall remain in full force and effect and binding upon the Parties hereto.

8.7. Waiver. No waiver of a breach or default hereunder shall be considered valid unless in writing and signed by the Party giving such waiver and no such waiver shall be deemed a waiver of any subsequent breach or default of the same or similar nature.

8.8. Amendments. This Agreement may not be amended or modified except in writing except in writing executed by duly authorized representative of the Parties. No waiver of any of the provisions of this Agreement shall be deemed to or shall constitute a waiver of any other provision hereof (whether or not similar). No delay on the part of any Party in exercising any right, power or privilege hereunder shall operate as a waiver thereof.

8.9. Governing Law. This Agreement shall be governed by and interpreted in accordance with the laws of the State of New York without giving effect to the principles of conflict of laws thereof.

8.10. Submission to Jurisdiction. Each of the Parties hereby irrevocably and unconditionally consents to submit to the exclusive jurisdiction of the federal and state courts located in the City and County of New York, NY for any litigation arising out of or relating to this Agreement and the transactions contemplated hereby (and agrees not to commence any litigation relating hereto or thereto except in such courts), and further agrees that service of any process, summons, notice or document by U.S. registered mail to its respective address set forth in this Agreement shall be effective service of process for any litigation brought against it in any such court. Each of the Parties hereto hereby irrevocably and unconditionally waives any objection to the laying of venue of any litigation arising out of this Agreement or the transactions contemplated hereby in the federal and state courts located in the City and County of New York, NY and hereby further irrevocably and unconditionally waives and agrees not to plead or claim in any such court that any such litigation brought in any such court has been brought in an inconvenient forum.

8.11. Waiver of Jury Trial. THE PARTIES WAIVE ANY RIGHT THEY MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY ACTION, PROCEEDING OR LITIGATION DIRECTLY OR INDIRECTLY ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT.

8.12. Third Party Beneficiaries. No Section of this Agreement is intended to confer upon any Person other than the Parties any rights or remedies hereunder.

8.13. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original but all of which, taken together, shall constitute one and the same instrument. This Agreement may be delivered by facsimile transmission or other form of electronic delivery, and receipt of such facsimile copy or electronic delivery of any Party's signature shall be considered to be receipt of an original copy thereof.

8.14. Notices. Each notice, demand or other communication to be given or made hereunder shall be made in writing and may be made by facsimile transmission. Any notice, request, demand or other communication required or permitted hereunder shall be in writing and shall be deemed to have been given (a) if delivered or sent by facsimile transmission, upon receipt, (b) if sent by registered or certified mail, upon the sooner of the date on which receipt is acknowledged or the expiration of [***] after deposit in United States post office facilities properly addressed with postage prepaid or (c) if sent by overnight courier, the Business Day following the date it is sent. All notices to a party will be sent to the addresses set forth below or to such other address or Person as such party may designate by notice to each other party hereunder:

If to Purchaser:	PureTech Health LLC 6 Tide Street, 4th Floor Boston, MA 02110 Attention: President Fax: (617) 482-3337
With a copy (which shall not constitute notice) to:	Ira A. Rosenberg, Esq. Sills Cummis & Gross P.C. One Riverfront Plaza Newark, NJ 07102 Fax: (973) 643-6500
If to Auspex:	Auspex Pharmaceuticals, Inc. c/o Teva Pharmaceuticals 400 Interpace Parkway Parsippany, NJ 07054 Attention: General Counsel Facsimile: 973-658-6056

With a copy (which shall not constitute notice) to:

Teva Pharmaceuticals
41 Moores Road
Frazer, PA 19035
Attention: Alliance Management

All notices required hereunder shall be deemed received (i) the same Business Day if delivered personally, (ii) [***] after being sent overnight by a reputable national overnight courier, (iii) [***] after being sent by registered or certified mail, postage prepaid, return receipt requested and (iv) the same Business Day if sent prior to 5:00 p.m. Eastern Time by confirmed facsimile transmission, otherwise the immediately following Business Day.

8.15. Entire Agreement. This Agreement (including all exhibits and schedules) constitutes the entire agreement between the Parties with respect to its subject matter and supersedes all prior agreements, arrangements, dealings or writings between the Parties.

[The remainder of this page intentionally left blank]

IN WITNESS WHEREOF the Parties hereto have executed this Agreement as of the date first written above.

PURETECH HEALTH LLC

By: /s/ Bharat Chowrira

Name: Bharat Chowrira
Title: President

AUSPEX PHARMACEUTICALS, INC.

By: /s/ Tushar Shah

Name: Tushar Shah
Title: Sr. Vice President

By: /s/ Stephen P. Trusko

Name: Stephen P. Trusko
Title: Sr. Director, Business Development

SCHEDULE A

[***]

SCHEDULE B

[***]

SCHEDULE C

[***]

SCHEDULE 1.1(a)

[***]

SCHEDULE 2.2(a)(vi)

[***]

SCHEDULE 2.2(d)

[***]

SCHEDULE 2.3

[***]

SCHEDULE 4.1(c)

[***]

SCHEDULE 4.1(d)

[***]

SCHEDULE 4.1(g)

[***]

SCHEDULE 4.1(k)

[***]

SCHEDULE 4.2(d)

[***]

EXHIBIT A

[***]

EXHIBIT B

EXHIBIT C

[***]

EXHIBIT D

[***]

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED (INDICATED BY: [*) FROM THE EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM IF PUBLICLY DISCLOSED.**

ROYALTY AGREEMENT

This ROYALTY AGREEMENT (the "Agreement"), dated as of July 23, 2013, is by and among (i) PureTech Ventures, LLC, a Delaware limited liability company ("PureTech"), and (ii) Follica, Incorporated, a Delaware corporation (the "Company").

WHEREAS, PureTech is required to provide certain management services and intellectual property as set forth in the Management and Overhead Services Agreement dated on or about the date hereof by and between the Company and PureTech;

WHEREAS, PureTech will receive certain consideration for such management services and intellectual property, including the potential royalty payments set forth herein;

NOW, THEREFORE, in consideration of the mutual promises hereinafter set forth and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

1. DEFINITIONS.

1.1 "Affiliate" shall mean any legal entity (such as a corporation, partnership, or limited liability company) that is controlled by a Party. For purposes of this definition, the term "control";, means as to such entity, direct or indirect ownership of (i) more than fifty percent (50%) in the aggregate of the voting power of all outstanding shares entitled to vote at a general election of directors of such entity, (ii) more than fifty percent (50%) of the equity interests in such entity, or (iii) more than fifty percent (50%) of the assets of such entity.

1.2 "Product" shall mean any product that involves (i) disrupting the skin using any mechanical, energy or chemical based approaches, (ii) applying compounds to the skin through the propelling of particles, or (iii) any other approaches to the treatment of hair follicles or other dermatological disorders commercialized by the Company.

1.3 "Process" shall mean any process that involves (i) disrupting the skin using any mechanical, energy or chemical based approaches (ii) applying compounds to the skin through the propelling of particles or (iii) any other approaches to the treatment of hair follicles or dermatological disorders commercialized by the Company.

1.4 "Service" shall mean the performance of a service for a third party, which performance uses or incorporates a Product or Process.

1.5 "Net Sales" means [***].

1.6 "Reporting Period" shall begin on the first day of each calendar quarter and end on the last day of such calendar quarter.

1.7 "Sublicensee" shall mean any non-Affiliate sublicensee of the rights granted by the Company enabling the commercialization of one or more Products, Processes or Services.

1.8 “Sublicense Income” shall mean all consideration received by the Company or any of its Affiliates from Sublicensees in exchange for the sublicensing of rights (i) to research, develop, make, have made, use, offer for sale, sell, lease, import or otherwise exploit Products in in the Territory, (ii) to research, develop, use, have used, perform or otherwise exploit Processes in the Territory or (iii) to develop, offer to sell, sell, have sold or otherwise exploit Services in the Territory, but specifically excluding royalties that are calculated as a percentage of Sublicensee sales. Sublicensing Income includes, without limitation, upfront payments, milestone payments, license maintenance fees, research and development funding and equity investments (whether in the form of stock purchase, options, warrants, convertible debt or other forms) paid directly or indirectly to the Company (or any of its Affiliates) from (or on behalf of) any Sublicensee. Notwithstanding the foregoing, Sublicense Income shall not include amounts paid to the Company by or on behalf of a sublicensee in connection with a sublicensing transaction as an equity investment in the Company (whether in the form of stock purchase, options, warrants or other forms) to the extent that the amount of such investment (calculated in case of options, warrants and the like as if exercised and including all amounts due on exercise) does not involve any premium over fair market value of the equity investment.

1.9 “Term” shall mean the term of this Agreement, which shall commence on the Effective Date and shall remain in effect until the expiration of the royalty obligation set forth in Section 2.1, unless earlier terminated in accordance with the provisions of this Agreement.

1.10 “Territory” shall mean worldwide.

2. ROYALTIES AND PAYMENT TERMS.

2.1 Royalty and Sublicense Income.

(a) Royalties. The Company shall pay to PureTech a royalty on Net Sales by the Company, its Affiliates and Sublicensees of Products, Processes and Services equal to [***] of Net Sales by the Company, its Affiliates and Sublicensees. Such royalty shall commence upon the first commercial sale of such Product, Process or Service in such country and shall terminate on the [***] anniversary thereof.

(b) Time of Payment. Royalties arising under this Section 2.1 shall be payable for each Reporting Period and shall be due to PureTech within [***] of the end of each Reporting Period.

(c) Sharing of Sublicense Income. The Company shall pay PureTech [***] of all Sublicense Income received by the Company or Affiliates. Such amount shall be payable for each Reporting Period and shall be due to PureTech within [***] of the end of each Reporting Period.

2.2 Payments.

(a) Method of Payment. All payments under this Agreement shall be made payable to PureTech and sent to the address identified in Section 10.1. Each payment should reference this Agreement and identify the obligation under this Agreement that the payment satisfies.

(b) Payments in U.S. Dollars. All payments due under this Agreement shall be payable in United States dollars. Conversion of foreign currency to U.S. dollars shall be made at the conversion rate existing in the United States (as reported in The Wall Street Journal) for the last working day of the calendar quarter of the applicable Reporting Period. Such payments shall be without deduction of exchange, collection, or other charges. Each Party is solely responsible for timely and properly filing and payment of its own taxes of any kind and in any jurisdiction. All payments under this Agreement shall be made in full without any deduction or withholding for or on account of any tax unless such deduction or withholding is required by applicable governmental laws, tax treaty, or regulations. Any tax required to be withheld by the Company under the laws of any foreign country for the account of PureTech shall be promptly paid by the Company for and on behalf of PureTech to the appropriate governmental authority, and the Company shall furnish PureTech with proof of payment of such tax together with official or other appropriate evidence issued by the applicable government authority. Any such tax actually paid on PureTech's behalf shall be deducted from royalty payments due PureTech.

(c) Late Payments. Any payments by the Company that are not paid on or before the date such payments are due under this Agreement shall bear interest, to the extent permitted by law, at two percentage points above the Prime Rate of interest as reported in The Wall Street Journal on the date payment is due.

3. REPORTS AND RECORD KEEPING.

3.1 Frequency of Reports.

(a) Before First Commercial Sale. Prior to the first commercial sale of any Product or first commercial performance of any Process or Service, the Company shall deliver reports to PureTech annually, within [***] of the end of each calendar year, containing information concerning the progress of research and development pertaining to the Product, Process and Service.

(b) Upon First Commercial Sale of a Product or Commercial Performance of a Process or Service. The Company shall report to PureTech the date of first commercial sale of a Product and the date of first commercial performance of a Process or Service within [***] of occurrence in each country.

(c) After First Commercial Sale. After the first commercial sale of a Product, a Process or a Service, the Company shall deliver reports to PureTech within [***] of the end of each Reporting Period, containing information concerning the immediately preceding Reporting Period, as further described in Section 3.2.

3.2 Content of Reports and Payments. Each report delivered by the Company to PureTech shall contain at least the following information for the immediately preceding Reporting Period:

(a) the number of Products sold, leased or distributed by the Company, its Affiliates and Sublicensees to independent third parties in each country, and, if applicable, the number of Processes and Services sold by the Company, its Affiliates and Sublicensees in each country;

(b) a description of Processes performed by the Company, its Affiliates and Sublicensees in each country as may be pertinent to a royalty accounting hereunder;

(c) the gross price charged by the Company, its Affiliates and Sublicensees for each Product and, if applicable, the gross price charged for each Process and Service performed by the Company, its Affiliates and Sublicensees in each country;

(d) the calculation of Net Sales for the applicable Reporting Period in each country, including a listing of applicable deductions;

(e) the total royalty payable on Net Sales in U.S. dollars, together with the exchange rates used for conversion;

(f) the amount of Sublicense Income received by the Company from each Sublicensee and the amount due to PureTech from such Sublicense Income, including an itemized breakdown of the sources of income comprising the Sublicense Income; and

(g) the number of sublicenses entered into for Products and/or Processes and/or Services for which amounts are due to PureTech under this Agreement.

If no amounts are due to PureTech for any Reporting Period, the report shall so state.

3.3 Financial Statements. On or before the [***] following the close of the Company's fiscal year, the Company shall provide PureTech with the Company's financial statements for the preceding fiscal year including, at a minimum, a balance sheet and an income statement, certified by the Company's treasurer or chief financial officer or by an independent auditor.

3.4 Record Keeping. The Company shall maintain, shall cause its Affiliates, and shall require its Sublicensees to maintain, complete and accurate records relating to the rights and obligations under this Agreement and any amounts payable to PureTech in relation to this Agreement, which records shall contain sufficient information to permit PureTech to confirm the accuracy of any reports delivered to PureTech and compliance in other respects with this Agreement. The relevant party shall retain such records for at least [***] following the end of the calendar year to which they pertain, during which time PureTech, or PureTech's appointed agents, shall have the right, at PureTech's expense, to inspect such records during normal business hours upon minimum advance notice of [***] to verify any reports and payments made or compliance in other respects under this Agreement. Any person inspecting the books and records of the Company on behalf of PureTech pursuant to this Section 3.4 shall enter into a customary confidentiality agreement with the Company covering the receipt of confidential information from the Company. In the event that any audit performed under this Section 3.4 reveals an underpayment in excess of [***], the Company shall bear the full cost of such audit. Any auditor shall report to PureTech only the amount of any underpayment or overpayment to PureTech or that the payments made by the Company were correct. The Company shall remit any amounts due to PureTech within [***] of receiving the report of the auditor.

4. INDEMNIFICATION

4.1 Indemnity.

(a) By the Company. The Company shall indemnify, defend, and hold harmless PureTech and its members, directors, officers, employees, agents and Affiliates and their respective successors, heirs and assigns (the "PureTech Indemnitees"), against any liability, damage, loss, or expense (including reasonable attorneys fees and expenses) incurred by or imposed upon any of the PureTech Indemnitees in connection with any third party claims, suits, actions, demands or judgments arising out of any theory of liability (including without limitation actions in the form of tort, warranty, or strict liability and regardless of whether such action has any factual basis) (a "Loss") (i) concerning any product, process, or service that is made, used, sold, imported, or performed pursuant to any right or license granted under this Agreement or (ii) due to a breach of this Agreement by the Company; provided, however, that the foregoing indemnification shall not apply to any Loss to the extent such Loss is caused by the breach of this Agreement or the negligence or willful misconduct of a PureTech Indemnitee.

(b) By PureTech. PureTech shall indemnify, defend, and hold harmless the Company and its directors, officers, employees, agents and Affiliates and their respective successors, heirs and assigns (the "Company Indemnitees"), against any Loss due to a breach of this Agreement by the PureTech; provided, however, that the foregoing indemnification shall not apply to any Loss to the extent such Loss is caused by the breach of this Agreement or the negligence or willful misconduct of a Company Indemnitee.

4.2 Procedures. A party seeking indemnification pursuant to Section 4.1 shall provide the indemnifying Party with prompt written notice of any claim, suit, action, demand, or judgment for which indemnification is sought under this Agreement. The indemnifying Party, at its own expense, shall provide attorneys reasonably acceptable to the indemnified party to defend against any such claim. The indemnified party shall cooperate fully with the indemnifying Party in such defense and will permit the indemnifying Party to conduct and control such defense and the disposition of such claim, suit, or action (including all decisions relative to litigation, appeal, and settlement); provided, however, that any indemnified party shall have the right to retain its own counsel, at the expense of the indemnifying Party, if representation of such indemnified party by the counsel retained by the indemnifying Party would be inappropriate because of actual legal conflicts between such indemnified party and any other party represented by such counsel. The indemnifying Party agrees to keep the other Party informed of the progress in the defense and disposition of such claim and to consult with such Party with regard to any proposed settlement.

5. REPRESENTATIONS, WARRANTIES AND COVENANTS

5.1 Representations and Warranties by each Party. Each of PureTech and the Company, with respect to itself, represents, warrants and covenants to the other that:

- (a) it is a corporation or entity duly organized and validly existing under the laws of the state or jurisdiction of its incorporation;

(b) the execution, delivery, and performance of this Agreement has been duly authorized by all requisite corporate or other action and does not require any shareholder or member action or approval;

(c) it has the full right, power, and authority to enter into and deliver this Agreement, and that the execution of this Agreement creates a valid and binding Agreement enforceable against it in accordance with its terms;

(d) the execution, delivery, and performance of this Agreement and its compliance with the terms and provisions hereof does not, and will not, conflict with or result in a breach of any of the terms or provisions of, or constitute a default under (i) a loan agreement, guaranty, financing agreement, agreement affecting a product or other agreement or instrument binding or affecting it or its property; (ii) the provisions of its charter or operative documents or by-laws; or (iii) any order, writ, injunction, or decree of any court or governmental authority entered against it or by which any of its property is bound; and

(e) to its knowledge, there are no existing or threatened actions, suits or claims pending against it with respect to its right to enter into and perform its obligations under this Agreement.

5.2 No Inconsistent Agreements. Neither Party has in effect and after the Effective Date neither Party shall enter into any oral or written agreement or arrangement that would be inconsistent with its obligations under this Agreement.

6. ASSIGNMENT.

Neither Party may assign this Agreement without the written consent of the other Party, which consent shall not be unreasonably withheld or delayed. Notwithstanding the foregoing, upon written notice to the other Party, either Party may assign this Agreement to a successor to its business:(whether by merger, a sale or other transfer of all or substantially all of its assets, a sale of a controlling interest of its capital stock, or otherwise) which agrees in writing to assume its obligations hereunder. This Agreement will be binding upon and inure to the benefit of the parties hereto and their respective successors and permitted assigns.

7. COVENANTS

7.1 Compliance with Laws. The Company shall comply in all material respects with all commercially material applicable local, state, federal, and foreign laws and regulations relating to the development, manufacture, use, and sale of Products, Processes and Service.

7.2 Export Control. The Company and its Affiliates and Sublicensees shall comply with all United States laws and regulations controlling the export of certain commodities and technical data, including without limitation all Export Administration Regulations of the United States Department of Commerce. Among other things, these laws and regulations prohibit or require license for the export of certain types of commodities and technical data to specified countries. The Company hereby gives written assurance that it will comply with, and will require its Affiliates and Sublicensees to comply with, all United

States export control laws and regulations, that it bears sole responsibility for any violation of such laws and regulations by itself or its Affiliates or Sublicensees, and that it will indemnify, defend, and hold PureTech harmless (in accordance with Section 4) for the consequences of any such violation.

7.3 Non-Use of PureTech Name. The Company and its Affiliates and Sublicensees shall not use the name of PureTech or any variation, adaptation, or abbreviation thereof, or of any of its employees, or agents, or any trademark owned by PureTech, or any terms of this Agreement in any promotional material or other public announcement or disclosure without the prior written consent of PureTech, except as may be required by law, stock exchange rule or other securities trading system rule. The Company shall be entitled to factually identify PureTech as its licensor under this Agreement.

8. TERMINATION.

8.1 Voluntary Termination.

(a) PureTech shall have the right to terminate this Agreement, for any reason, at any time upon at least [***] prior written notice to the Company, such notice to state the date upon which such termination is to be effective.

8.2 Termination for Default.

(a) Nonpayment. In the event the Company fails to pay any amounts due and payable to PureTech hereunder, and fails to make such payment within [***] after receiving written notice (by certified US mail) of such failure, PureTech may terminate this Agreement immediately upon written notice to the Company.

(b) Material Breach by the Company. In the event the Company commits a material breach of its obligations under this Agreement, except for breach as described in Section 8.2(a), and fails to cure that breach within [***] after receiving written notice thereof (by certified US mail), PureTech may terminate this Agreement immediately upon written notice to the Company.

(c) Material Breach by PureTech. In the event PureTech commits a material breach of its obligations under this Agreement and fails to cure that breach within [***] after receiving written notice thereof (by certified US mail), the Company may terminate this Agreement immediately upon written notice to PureTech.

8.3 Effect of Termination.

(a) Survival. The following provisions shall survive the expiration or termination of this Agreement: Articles 1 and 9, and Sections 3.2 (to the extent requiring a final report and payment) and 3.4.

9. DISPUTE RESOLUTION.

9.1 Mandatory Procedures. The Parties agree that any dispute arising out of or

relating to this Agreement shall be resolved solely by means of the procedures set forth in this Article, and that such procedures constitute legally binding obligations that are an essential provision of this Agreement. If either Party fails to observe the procedures of this Article, as may be modified by their written agreement, the other Party may bring an action for specific performance of these procedures in any court of competent jurisdiction.

9.2 Equitable Remedies. Although the procedures specified in this Article are the sole and exclusive procedures for the resolution of disputes arising out of or relating to this Agreement, either Party may seek a preliminary injunction or other provisional equitable relief if, in its reasonable judgment, such action is necessary to avoid irreparable harm to itself or to preserve its rights under this Agreement.

9.3 Dispute Resolution Procedures.

(a) Negotiation. In the event of any dispute arising out of or relating to this Agreement, the affected Party shall notify the other Party, and the Parties shall attempt in good faith to resolve the matter within [***] after the date of such notice (the "Notice Date"). Any disputes not resolved by good faith discussions shall be referred to senior executives of each Party, who shall meet at a mutually acceptable time and location within [***] after the Notice Date and attempt to negotiate a settlement.

(b) Arbitration. If the matter remains unresolved within [***] after the Notice Date, or if the senior executives fail to meet within [***] after the Notice Date, either Party shall be entitled to submit the matter to binding arbitration under the commercial arbitration rules of the American Arbitration Association. Any such arbitration shall be conducted by a panel of three arbitrators (the "Arbitration Panel") and shall be conducted in Boston, Massachusetts. PureTech on the one hand, and the Company on the other, shall each appoint one arbitrator, and the third arbitrator shall be appointed by the two arbitrators appointed by PureTech and the Company. The Arbitration Panel shall have the authority to grant specific performance and to allocate between the parties the costs of arbitration in such equitable manner as it shall determine. Judgments upon the award so rendered may be entered in any court having jurisdiction or application may be made to such court for judicial acceptance of any award and an order of enforcement, as the case may be.

10. MISCELLANEOUS.

10.1 Notice. Any notices required or permitted under this Agreement shall be in writing, shall specifically refer to this Agreement, and shall be sent by hand, recognized national overnight courier, confirmed facsimile transmission, or registered or certified mail, postage prepaid, return receipt requested, to the following addresses or facsimile numbers of the parties:

If to PureTech: Daphne Zohar
PureTech Ventures, LLC
500 Boylston Street, Suite 1600
Boston, Massachusetts 02116
Fax: 617.482.3337

If to the
Company: President
Follica, Incorporated
500 Boylston Street, Suite 1600
Boston, Massachusetts 02116
Fax: 617.482.3337.

All notices under this Agreement shall be deemed effective upon receipt. A party may change its contact information immediately upon written notice to the other party in the manner provided in this Section 10.1.

10.2 Governing Law. This Agreement and all disputes arising out of or related to this Agreement, or the performance, enforcement, breach or termination hereof, and any remedies relating thereto, shall be construed, governed, interpreted and applied in accordance with the laws of the Commonwealth of Massachusetts, U.S.A., without regard to conflict of laws principles, except that questions affecting the construction and effect of any patent shall be determined by the law of the country in which the patent shall have been granted.

10.3 Force Majeure. Neither party will be responsible for delays resulting from causes beyond the reasonable control of such party, including without limitation fire, explosion, flood, war, strike, or riot, provided that the nonperforming party uses commercially reasonable efforts to avoid or remove such causes of nonperformance and continues performance under this Agreement with reasonable dispatch whenever such causes are removed.

10.4 Amendment and Waiver. This Agreement may be amended, supplemented, or otherwise modified only by means of a written instrument signed by both Parties. Any waiver of any rights or failure to act in a specific instance shall relate only to such instance and shall not be construed as an agreement to waive any rights or fail to act in any other instance, whether or not similar.

10.5 Severability. In the event that any provision of this Agreement shall be held invalid or unenforceable for any reason, such invalidity or unenforceability shall not affect any other provision of this Agreement, and the parties shall negotiate in good faith to modify the Agreement to preserve (to the extent possible) their original intent. If the Parties fail to reach a modified agreement within [***] after the relevant provision is held invalid or unenforceable, then the dispute shall be resolved in accordance with the procedures set forth in Article 13. While the dispute is pending resolution, this Agreement shall be construed as if such provision were deleted by agreement of the parties.

10.6 Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties and their respective permitted successors and assigns.

10.7 Headings. All headings are for convenience only and shall not affect the meaning of any provision of this Agreement.

10.8 Entire Agreement. This Agreement constitutes the entire agreement between the parties with respect to its subject matter and supersedes all prior agreements or understandings between the parties relating to its subject matter. For the avoidance of doubt, this Agreement shall not supersede the Exclusive Patent License Agreement dated as of July 16, 2008 by and between PureTech and the Company, which agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives.

PURETECH VENTURES LLC

By: /s/ Daphne Zohar

Name: Daphne Zohar

Title: Managing Partner

FOLLICA, INCORPORATED

By: /s/ Daphne Zohar

Title: Daphne Zohar

Name: Interim President and CEO

ROYALTY AND SUBLICENSE INCOME AGREEMENT

This ROYALTY ASSIGNMENT AGREEMENT (the "Agreement"), dated as of December 18, 2009, is by and among (i) PureTech Ventures, LLC, a Delaware limited liability company, ("PureTech"), (ii) Gelesis, Inc., a Delaware corporation, ("Gelesis-US") and (iii) Gelesis LP (formerly AML-Dienstein B. V.), a Bermudan limited partnership ("Gelesis-Bermuda" and collectively with Gelesis-US, "Gelesis").

WHEREAS, PureTech is required to provide certain funding, management services and intellectual property as set forth in (i) the Note Purchase Agreement dated on or about the date hereof by and between Gelesis-US and PureTech and (ii) the Management and Overhead Services Agreement dated on or about the date hereof by and between Gelesis-US and PureTech;

WHEREAS, PureTech will receive certain consideration for such funding, management services and intellectual property, including the potential royalty payments and sublicense payments set forth herein;

NOW, THEREFORE, in consideration of the mutual promises hereinafter set forth and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

1. Definitions. Reference is made to that certain Patent License and Assignment Agreement dated December 9, 2009 (the "License Agreement") by and among Gelesis-Bermuda, One S. R. L., Luigi Ambrosio, Luigi Nicolais and Alessandro Sannino. All capitalized terms not otherwise defined herein shall have the meanings ascribed to them in the License Agreement.

2. Royalties.

(a) Gelesis shall pay to PureTech, during the applicable term described in Section 2(b) below, earned royalties at the following rates:

<u>Type of Licensed Product</u>	<u>Rate</u>
A royalty on all Net Sales by Gelesis-Bermuda, its affiliates or any Sublicensee of Licensed Products that are not FoodProducts:	2%
A royalty on all Net Sales by Gelesis-Bermuda or its affiliates of Licensed Products that are Food Products:	2%

If the manufacture, use, lease, or sale of any Licensed Product is covered by more than one of the Valid Claims under the Patent Rights in the Field, or any patents in the Improvements or Food IP, multiple royalties shall not be due.

(b) The Parties hereby agree that should intellectual property rights owned by a third party pose as an obstacle to the development or commercialization of any Licensed Product that is not a Food Product (the "Blocking IP"), Gelesis-Bermuda or an applicable affiliate of Gelesis-Bermuda shall, after consulting in good faith with PureTech, seek a potential settlement solution with the Blocking IP holder and the royalty rates for Licensed Products that are not Food Products set forth in Section 2(a) shall be reduced by the amount of such consideration paid for the rights to such Blocking IP; provided, however that in no case shall the royalty rates for Licensed Products that are not Food Products set forth in Section 2(a) be reduced by more than fifty percent (50%) as a result of the application of this Section 2(b).

(c) The obligation of Gelesis to pay royalties pursuant to Section 2(a) shall terminate on a country-by-country basis concurrently with (i) the expiration or termination of the applicable Valid Claim under the Patent Rights in the country in which the Licensed Product is sold, or (ii) the withdrawal, cancellation, or disclaiming of the applicable Valid Claim under the Patent Rights in the country in which the Licensed Product is sold.

3. Sublicense Income. Gelesis shall pay to PureTech ten percent (10%) of Sublicense Income received by Gelesis and its affiliates on Food Products.

4. Reports and Payments. Following the commencement of Gelesis's obligations to pay any royalties pursuant to Section 2, Gelesis shall deliver to PureTech within sixty (60) days after the end of each calendar quarter a written report showing its computation of royalties due under this Agreement for such calendar quarter. Simultaneously with the delivery of each such report, Gelesis shall tender payment of all amounts shown to be due thereon. The royalty payments due on sales in currencies other than U.S. dollars shall be calculated using the appropriate exchange rate for such currency quoted by the relevant Government Authority as published by the Wall Street Journal on the last business day of the calendar quarter to which such report relates. All amounts due under this Agreement shall be paid to PureTech in U.S. dollars by wire transfer to an account in a bank designated by PureTech, or in such other form and/or manner as PureTech may reasonably request. During the term of this Agreement, PureTech, at its cost, shall have the right from time to time (not to exceed once during each calendar year) to engage a certified public accountant, reasonably acceptable to Gelesis, to inspect, during normal business hours, upon reasonable advance notice (not less than one week), and subject to a written obligation of confidentiality acceptable to Gelesis, such books, records and other supporting data of Gelesis as may be necessary to verify Gelesis's computation of royalties due under this Agreement.

5. Withholding Taxes. All payments made by Gelesis to PureTech shall be net of withholding taxes.

6. Miscellaneous.

(a) Transfers of Rights under this Agreement. This Agreement, and the rights and obligations of each party hereunder, may not be assigned by any party without the prior written consent of each of PureTech and Gelesis.

(b) Successors and Assigns. The provisions of this Agreement shall inure to the benefit of, and be binding upon, the respective successors, permitted assigns, heirs, executors, and administrators of the parties hereto and shall inure to the benefit of and be enforceable by each party hereto.

(c) Notices. Any notice, demand, request or delivery required or permitted to be given pursuant to the terms of this Agreement shall be in writing and shall be deemed given (i) when delivered personally or when sent by facsimile transmission and confirmed by telephone or electronic transmission report (with a hard copy to follow by mail), (ii) on the next business day after timely delivery to a generally recognized receipted overnight courier (such as FedEx) and (iii) on the third business day after deposit in the U.S. mail (certified or registered mail, return receipt requested, postage prepaid), addressed to the party at such party's address as set forth on the signature pages hereto or as subsequently modified by written notice delivered as provided herein.

(d) Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware and the laws of the United States applicable therein (without giving effect to any choice or conflict of laws provision or rule that would cause the application of the laws of any other jurisdiction) and shall be treated in all respects as a Delaware contract.

(e) Waivers and Amendments. Except as otherwise expressly set forth in this Agreement, any term of this Agreement may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance and either retroactively or prospectively), only by written agreement of PureTech, Gelesis-US and Gelesis-Bermuda. No waivers of or exceptions to any term, condition or provision of this Agreement, in any one or more instances, shall be deemed to be, or construed as, a further or continuing waiver of any such term, condition or provision.

(f) Delays or Omissions. No delay on the part of any party in exercising any right, power, remedy or privilege hereunder shall operate as a waiver thereof nor shall any waiver on the part of any party of any such right, power, remedy or privilege, nor any single or partial exercise of any such right, power, remedy or privilege, preclude any further exercise thereof or the exercise of any other such right, power, remedy or privilege. All remedies, either under this Agreement, by law, or otherwise afforded to the parties, shall be cumulative and not alternative.

(g) Titles and Subtitles. The titles of the sections and subsections of this Agreement are for convenience of reference, only and are not to be considered in construing this Agreement.

(h) Entire Agreement. This Agreement embodies the entire agreement and understanding among the parties with respect to the subject matter hereof and related transactions, and supersedes all prior agreements and understandings among the parties, written or oral, with respect thereto.

(i) Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

(j) Severability. If any provision of this Agreement shall be held to be illegal, invalid or unenforceable, such illegality, invalidity or unenforceability shall attach only to such provision and shall not in any manner affect or render illegal, invalid or unenforceable any other provision of this Agreement, and this Agreement shall be carried out as if any such illegal, invalid or unenforceable provision were not contained herein.

(k) Non-Impairment. No amendment, waiver or termination of the License Agreement following the date hereof shall have any effect on the terms of this Agreement unless such amendment, waiver or termination is approved in writing by PureTech. In addition, each of Gelesis-US and Gelesis-Bermuda agree not to, through any reorganization, recapitalization, reclassification, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by such party, but will at all times in good faith assist in the carrying out of all the provisions of this Agreement and in the taking of all such action as may be necessary or appropriate in order to protect the rights described herein against impairment.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties have executed this Royalty and Sublicense Income Agreement as of the date first above written.

GELESIS, INC.

By: /s/ Yishai Zohar
Name:
Title:
Address: 222 Berkeley Street, Suite 1040
Boston, Massachusetts 02116
Fax: 617. 482. 2333

GELESIS, LP

By: /s/ Yishai Zohar
Name:
Title:
Address: 222 Berkeley Street, Suite 1040
Boston, Massachusetts 02116
Fax: 617. 482. 2333

PURETECH VENTURES, LLC

By: /s/ Daphne Zohar
Name:
Title:
Address: 222 Berkeley Street, Suite 1040
Boston, Massachusetts 02116
Fax: 617. 482. 2333

AMENDMENT NO. 1 TO ROYALTY AND SUBLICENSE INCOME AGREEMENT

This Amendment No. 1 ("Amendment No. 1") to the Royalty and Sublicense Income Agreement dated as of December 18, 2009 (the "Agreement") by and among Gelesis, Inc, a Delaware corporation ("Gelesis-US"), Gelesis IP L. P., a Bermudan limited partnership ("Gelesis-Bermuda"), and PureTech Ventures, LLC, a Delaware limited liability company ("PureTech"), is entered into on this 28th day of June, 2012 by and among Gelesis-US, Gelesis-Bermuda, PureTech, and Gelesis, LLC, a Delaware limited liability company ("Gelesis, LLC"). This Amendment No. 1 shall not become binding and shall have no effect unless and until Gelesis, Inc. enters into a License and Collaboration Agreement (the "Gelesis/AZ Agreement") with AstraZeneca AB ("AstraZeneca") substantially in the form attached hereto as Exhibit A. The date on which the Gelesis/AZ Agreement is signed shall be the effective date (the "Amendment No. 1 Effective Date") of this Amendment No. 1. For purposes hereof, all capitalized terms used herein but not defined herein shall have the meanings given to them in the Master Agreement and License Agreement.

Pursuant to Section 6(e) of the Agreement and Section 9.9 of the License Agreement, Gelesis-US, Gelesis-Bermuda, Gelesis, LLC, and PureTech hereby agree as follows:

1. The parties hereby agree that Gelesis-US and Gelesis-Bermuda hereby assign to Gelesis, LLC, and Gelesis, LLC hereby accepts and assumes, all rights, interests, and obligations under this Agreement. All references to "Gelesis-US", "Gelesis-Bemuda", and "Gelesis" in the Agreement shall hereafter be deemed to refer to Gelesis, LLC.

2. Section 2 of the License Agreement is hereby deleted and replaced its their entirety as follows:

"2. In the event that, on a country-by-country basis, one or more patents are issued by the patent authority in that country and contain a Valid Claim, Gelesis LLC shall pay to PureTech Ventures, LLC two percent (2%) of Net Sales of such Licensed Product during the Calendar Year. For the avoidance of doubt there is no increase to the royalty for more than one Valid Claim. In the event that, on a country-by country basis, there is no Valid Claim, Gelesis LLC shall pay to PureTech five percent (5%) of any royalty paid to Gelesis, LLC by AstraZeneca pursuant to Section 10.5.2 (i. e. Royalty Scenario 2) of the Gelesis/AZ Agreement. The royalties referred to in Section 2 shall (i) be paid to PureTech within thirty (30) days following receipt of such royalty by Gelesis, LLC from AstraZenca and (b) be subject to all of the same adjustments as the royalties payable to Gelesis, LLC under the AstraZeneca Agreement."

Solely for purposes of this Section 1 of this Amendment No. 1, all capitalized terms shall have the meanings ascribed to them in the Gelesis/AZ Agreement.

3. In the event that the Gelesis/AZ Agreement is terminated, PureTech may request in writing that the Amendments set forth in Section 2 of this Amendment No. 1 be terminated. In such event, the amendment set forth in Section 2 of this Amendment No. 1 shall terminate and be of no further force or effect.

4. The Agreement (including Amendment No. 1) are hereby confirmed and continue in all other respects.

[Remainder of Page Intentionally Blank.]

IN WITNESS WHEREOF, the parties have caused this Amendment No to be executed by their duly authorized representatives as of the Amendment No, 1 Effective Date.

GELESIS, INC.

By: /s/ Yishai Zohar
Name: Yishai Zohar
Title: Chief Executive Officer

GELESIS LLC

By: /s/ Yishai Zohar
Name: Yishai Zohar
Title: Chief Executive Officer

GELESIS IP L.P.

By: /s/ Yishai Zohar
Name:
Title:

PURETECH VENTURES, LLC:

By: /s/ Stephen Muniz
Name: Stephen Muniz
Title: Partner

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED (INDICATED BY: [***]) FROM THE EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM IF PUBLICLY DISCLOSED.

EXCLUSIVE PATENT LICENSE AGREEMENT

by and between

PURETECH VENTURES LLC

and

KARUNA PHARMACEUTICALS, INC.

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED (INDICATED BY: [***]) FROM THE EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM IF PUBLICLY DISCLOSED.

EXCLUSIVE PATENT LICENSE AGREEMENT

This Agreement, effective as of the date set forth above the signatures of the parties below (the “Effective Date”), is between PureTech Ventures LLC, a Delaware limited liability company (“PureTech”), and Karuna Pharmaceuticals, Inc., a Delaware corporation (the “Company”). PureTech and the Company are sometimes referred to herein individually as a “Party” and collectively as the “Parties.”

RECITALS

WHEREAS, PureTech is the owner of certain Patent Rights (as later defined herein) and has the right to grant licenses under said Patent Rights;

WHEREAS, PureTech desires to have the Patent Rights developed and commercialized by the Company and is willing to grant a license thereunder; and

WHEREAS, the Company desires to obtain a license under the Patent Rights and PureTech is willing to grant the same to the Company upon the terms and conditions hereinafter set forth.

NOW, THEREFORE, PureTech and the Company hereby agree as follows:

1. DEFINITIONS

1.1 “Affiliate” shall mean any legal entity (such as a corporation, partnership, or limited liability company) that is controlled by a Party. For purposes of this definition, the term “control” means as to such entity, direct or indirect ownership of (i) more than fifty percent (50%) in the aggregate of the voting power of all outstanding shares entitled to vote at a general election of directors of such entity, (H) more than fifty percent (50%) of the equity interests in such entity, or (iii) more than fifty percent (50%) of the assets of such entity.

1.2 “Field” shall mean all uses and applications.

1.3 “Licensed Product” shall mean any product that cannot be manufactured, used, leased or sold, in whole or in part, without infringing one or more Valid Claims under the Patent Rights.

1.4 “Net Sales” means [***].

[***]

1.5 “Patent Rights” shall mean all of PureTech’s right, title and interest in:

(a) the United States patent applications listed on Appendix A, their foreign counterparts, and the resulting patents;

(b) any divisionals, continuations, continuation-in-part applications, continued prosecution applications, or any other application claiming priority to one or more of the patent applications listed on Appendix A to the extent the claims are directed to subject matter specifically described in the patent applications listed on Appendix A, and the resulting patents; and

(c) any patents resulting from reissues, reexaminations, extensions, or restorations (and their relevant international equivalents) of the patents described in (a) and (b) above.

1.6 “Reporting Period” shall begin on the first day of each calendar quarter and end on the last day of such calendar quarter.

1.7 “Sublicense Income” shall mean all consideration received by the Company or any of its Affiliates from Sublicensees in exchange for the sublicensing of rights granted to the Company pursuant to Article 2 herein, but specifically excluding royalties. Sublicensing Income includes, without limitation, upfront payments, milestone payments, license maintenance fees, research and development funding (subject to (a), below) and equity investments (whether in the form of stock purchase, options, warrants, convertible debt or other forms) (subject to (a), below) paid directly or indirectly to the Company (or any of its Affiliates) from (or on behalf of) any Sublicensee. Notwithstanding the foregoing:

(a) funding of activities directly in furtherance of Licensed Product research and clinical, regulatory and manufacturing process development are excluded from Sublicense Income; and

(b) Sublicense Income shall not include amounts paid to the Company as an equity investment in the Company or any of its Affiliates (whether in the form of stock purchase, options, warrants or other forms) to the extent that the amount of such investment (calculated in case of options, warrants and the like as if exercised and including all amounts due on exercise) does not involve any premium over fair market value of the equity investment.

To avoid any doubt, Sublicensing Income extends to and includes consideration that is paid on the basis of rights (including covenants not to sue) under any intellectual property licensed to the Company pursuant to Article 2 of this Agreement even if the Company structures its grant of rights to the Sublicensee so that the grant of rights under the Patent Rights formally occurs in a separate written agreement from the grant of rights under other intellectual property of the Company relating to the Licensed Product.

1.8 “Sublicensee” shall mean any non-Affiliate sublicensee of the rights granted the Company under Section 2.2.

1.9 “Term” shall mean the term of this Agreement, which shall commence on the Effective Date and shall remain in effect until the expiration or abandonment of all issued patents and filed patent applications within the Patent Rights, unless earlier terminated in accordance with the provisions of this Agreement.

1.10 “Territory” shall mean worldwide.

1.11 “Valid Claim” shall mean a claim of any filed patent application included within the Patent Rights which has not been held finally revoked, unenforceable or invalid by a decision of a court or other governmental agency of competent jurisdiction and which (i) has not been admitted to be invalid or unenforceable through reissue or disclaimer or otherwise, (ii) has not been withdrawn or abandoned, or (iii) has not been lost through an interference proceeding.

2. GRANT OF RIGHTS.

2.1 License Grants. Subject to the terms of this Agreement, PureTech hereby grants to the Company for the Term a royalty-bearing exclusive license (even as against PureTech) under the Patent Rights to research, develop, make, have made, use, offer for sale, sell, lease, import and otherwise exploit Licensed Products in the Field in the Territory.

2.2 Sublicenses. The Company shall have the right to grant sublicenses of its rights hereunder. The Company shall incorporate terms and conditions into such sublicense agreements sufficient to enable the Company to comply with this Agreement. Within [***] following the execution thereof, the Company shall furnish PureTech with a fully signed photocopy of any sublicense agreement.

2.3 No Additional Rights. Nothing in this Agreement shall be construed to confer any rights upon the Company by implication, estoppel or otherwise as to any technology or patent rights of PureTech or any other entity other than the Patent Rights, regardless of whether such technology or patent rights shall be dominant or subordinate to any Patent Rights.

2.4 **Due Diligence Obligations.** The Company shall use diligent efforts, and shall cause its Affiliates and any Sublicensees to use diligent efforts, to develop Licensed Products and to introduce Licensed Products into the commercial market; thereafter, the Company and its Affiliates and any Sublicensees shall maximize the commercial sales of such Licensed Products. Specifically, the Company and its Affiliates and any Sublicensees shall fulfill the following obligations:

(a) Within [***] of the Effective Date, the Company shall initiate, defined as first dosing of patient, a trial using a Licensed Product where the primary outcome measure is a statistically significant separation by a Licensed Product from placebo on the positive and negative symptom scale (PANSS) or equivalent scale that has previously been used as a primary endpoint for U.S. Food and Drug Administration registration for the treatment of schizophrenia and the total number of patients that will enroll in the study is greater than [***].

(b) At any time prior to approval of a Licensed Product by the U.S. Food and Drug Administration, the Company shall not, for any consecutive [***] period, fail to initiate, defined as first dosing of patient, a human clinical study with a Licensed Product or make a regulatory submission to the U.S. Food and Drug Administration, the European Medicines Evaluation Agency, or the Japanese Ministry of Health and Welfare seeking the marketing of a License Product for the treatment of a disease.

(c) The Company shall not (i) become insolvent; (ii) make an assignment for the benefit of creditors; (iii) have a bona fide petition in bankruptcy filed for or against it, which petition is withdrawn or dismissed within [***] of its filing; or (iv) cease operations (at an activity level sufficient for the continued development of Products) for more than one [***].

In the event that PureTech determines that the Company (or an Affiliate or Sublicensee) has failed to fulfill its obligations under this Section 2.4, then PureTech may treat such failure as a material breach in accordance with Section 11.2(b).

3. ROYALTIES AND PAYMENT TERMS.

3.1 Consideration for Grant of Rights.

(a) **Running Royalties.** The Company shall pay to PureTech a running royalty of [***] of annual Net Sales by the Company, its Affiliates and any Sublicensees. Running royalties shall be payable for each Reporting Period and shall be due to PureTech within [***] of the end of each Reporting Period.

(b) **Milestone Payments.** The Company shall pay to PureTech the following milestone payments in connection with the achievement of the following events by the Company, any of its Affiliates or any Sublicensee (each such event is hereafter referred to as a "Milestone"):

(i) [***] within [***] following the commencement of a Phase III Clinical Trial of a Licensed Product;

(ii) [***] within [***] following approval by the U.S. Food and Drug Administration, or any successor thereto, to offer for sale and sell (including any necessary price approvals) any Licensed Product;

(iii) [***] within [***] following approval by the European Medicines Evaluation Agency or any other European regulatory authority, or any successor thereto, to offer for sale and sell (including any necessary price approvals) any Licensed Product; and

(iv) [***] within [***] following approval by the Japanese Ministry of Health and Welfare or, any successor entity to offer for sale and sell (including any necessary price approvals) any Licensed Product.

(c) **Sharing of Sublicense Income.** The Company shall pay PureTech [***] all Sublicense Income received by the Company or its Affiliates, excluding running royalties on Net Sales of Sublicensees. Such amount shall be payable for each Reporting Period and shall be due to PureTech within [***] of the end of each Reporting Period.

3.2 Payments.

(a) Method of Payment. All payments under this Agreement shall be made payable to PureTech and sent to the address identified in Section 13.1. Each payment should reference this Agreement and identify the obligation under this Agreement that the payment satisfies.

(b) Payments in U.S. Dollars. All payments due under this Agreement shall be payable in United States dollars. Conversion of foreign currency to U.S. dollars shall be made at the conversion rate existing in the United States (as reported in The Wall Street Journal) for the last working day of the calendar quarter of the applicable Reporting Period. Such payments shall be without deduction of exchange, collection or other charges. Each Party is solely responsible for timely and properly filing and payment of its own taxes of any kind and in any jurisdiction. All payments under this Agreement shall be made in full without any deduction or withholding for or on account of any tax unless such deduction or withholding is required by applicable governmental laws, tax treaty, or regulations. Any tax required to be withheld by the Company under the laws of any foreign country for the account of PureTech shall be promptly paid by the Company for and on behalf of PureTech to the appropriate governmental authority, and the Company shall use its best efforts to furnish PureTech with proof of payment of such tax together with official or other appropriate evidence issued by the applicable government authority. Any such tax actually paid on PureTech's behalf shall be deducted from royalty payments due PureTech.

(c) Late Payments. Any payments by the Company that are not paid on or before the date such payments are due under this Agreement shall bear interest, to the extent permitted by law, at [***] above the Prime Rate of interest as reported in The Wall Street Journal on the date payment is due.

4. **REPORTS AND RECORD KEEPING.**

4.1 Frequency of Reports.

(a) Before First Commercial Sale. Prior to the first commercial sale of any Licensed Product, the Company shall deliver reports to PureTech annually, within [***] the end of each calendar year, containing information concerning the progress of research and development pertaining to the Licensed Product.

(b) Upon First Commercial Sale. The Company shall report to PureTech the date of first commercial sale of a Licensed Product within [***] of occurrence thereof in each country.

(c) After First Commercial Sale. After the first commercial sale of a Licensed Product, the Company shall deliver reports to PureTech within [***] of the end of each Reporting Period, containing information concerning the immediately preceding Reporting Period, as further described in Section 4.2.

4.2 Content of Reports and Payments. Each report delivered by the Company to PureTech shall contain at least the following information for the immediately preceding Reporting Period:

(a) the number of Licensed Products sold, leased or distributed by the Company, its Affiliates and any Sublicensees to independent third parties in each country;

(b) the gross price charged by the Company, its Affiliates and any Sublicensees for each Licensed Product;

(c) the calculation of Net Sales for the applicable Reporting Period in each country, including a listing of applicable deductions;

(d) the total royalty payable on Net Sales in U.S. dollars, together with the exchange rates used for conversion;

(e) the amount of Sublicense Income received by the Company from each Sublicensee and the amount due to PureTech from such Sublicense Income, including an itemized breakdown of the sources of income comprising the Sublicense Income; and

(f) the number of sublicenses entered into for the Patent Rights and/or Licensed Products.

If no amounts are due to PureTech for any Reporting Period, the report shall so state.

4.3 Financial Statements. On or before the [***] following the close of the Company's fiscal year, the Company shall provide PureTech with the Company's financial statements for the preceding fiscal year including, at a minimum, a balance sheet and an income statement, certified by the Company's treasurer or chief financial officer or by an independent auditor.

4.4 Record Keeping. The Company shall maintain, and shall require its Affiliates and any Sublicensees to maintain, complete and accurate records relating to research and development under this Agreement and any amounts payable to PureTech in relation to this Agreement, which records shall contain sufficient information to permit PureTech to confirm the accuracy of any reports delivered to PureTech and compliance in other respects with this Agreement. The relevant party shall retain such records for at least [***] following the end of the calendar year to which they pertain, during which time PureTech, or PureTech's appointed agents, shall have the right, at PureTech's expense, to inspect such records during normal business hours upon minimum advance notice of [***] to verify any reports and payments made or compliance in other respects under this Agreement. Any person inspecting the books and records of the Company on behalf of PureTech pursuant to this Section 4.4 shall enter into a confidentiality agreement with the Company in its standard form covering the receipt of confidential information from the Company. In the event that any audit performed under this Section reveals an underpayment in excess of [***] the Company shall bear the full cost of such audit. Any auditor shall report to PureTech only the amount of any underpayment or overpayment to PureTech or that the payments made by the Company were correct. The auditor shall deliver a copy of its audit report to the Company at the same time it remits such audit report to PureTech. The Company shall remit any amounts due to PureTech, and PureTech shall refund any overpayment to the Company, within [***] of receiving the report of the auditor.

5. PATENT PROSECUTION.

5.1 Responsibility for Patent Rights. The Company shall prepare, file, diligently prosecute and maintain all of the Patent Rights. PureTech shall have reasonable opportunities to advise the Company with respect to such preparation, filing, prosecution and maintenance and PureTech and the Company shall cooperate with each other (any each other's respective legal counsel) in such filing, prosecution and maintenance.

5.2 Payment of Expenses. Payment of all fees and costs, including attorneys fees, incurred after the Effective Date relating to the filing, prosecution and maintenance of the Patent Rights shall be the responsibility of the Company.

5.3 Reversion of Patent Rights. In its sole discretion, the Company may elect not to prosecute certain of the Patent Rights (including rights in certain countries or territories) if and only if the Company shall notify PureTech of such decision within [***] prior to any filing deadline in respect of such Patent Rights; provided however that if the Company elects not to prosecute such Patent Rights, such Patent Rights shall revert to PureTech and shall automatically be excluded from the definition of "Patent Rights" hereunder.

6. INFRINGEMENT.

6.1 Notification of Infringement. Each Party agrees to provide written notice to the other Party promptly after becoming aware of any infringement of the Patent Rights.

6.2 Right to Prosecute Infringements.

(a) Company Right to Prosecute. So long as the Company remains the exclusive licensee of the Patent Rights in the Field in the Territory, the Company, to the extent permitted by law, shall have the right, under its own control and at its own expense, to prosecute any third party infringement of the Patent Rights in the Field in the Territory, subject to Section 6.4. If required by law, PureTech shall permit any action under this Section 6.2 to be brought in its name, including being joined as a party-plaintiff, provided that the Company shall hold PureTech harmless from, and indemnify PureTech against, any costs, expenses, or liability that PureTech incurs in connection with such action. Prior to commencing any such action, the Company shall consult with PureTech and shall consider the views

of PureTech regarding the advisability of the proposed action and its effects. The Company shall not enter into any settlement, consent judgment, or other voluntary final disposition of any infringement action under this Section 6.2 which admits the invalidity or unenforceability of any Patent Rights without the prior written consent of PureTech. If the Company does not take commercially reasonable steps to abate the infringement of such Patent Rights within [***] from any infringement notice from PureTech, based upon the Company's determination that such action would be commercially unreasonable and the Company provides PureTech its reasons therefor in writing, then the Company shall not have the obligation to take any such action or institute any proceeding. In this regard, the Company shall be entitled to use its reasonable commercial discretion in determining (a) whether to contact and/or institute any action or proceeding against an alleged infringer; (b) the timing of any contact with an alleged infringer or action or proceeding to be instituted against an alleged infringer; (c) the location of any action or proceeding to be instituted against an alleged infringer; and (d) if there is more than one alleged infringer, which alleged infringer to contact regarding its alleged infringement or against which any action or proceeding is to be brought. It is further understood and agreed that, during such time as the Company is pursuing any action or proceeding against one alleged infringer, the Company shall have no obligation to contact or pursue additional alleged infringers.

(b) PureTech Right to Prosecute. In the event that the Company is unsuccessful in persuading the alleged infringer to desist or fails to have initiated an infringement action within the time provided in Section 6.2(a) above and the infringement is open, obvious and financially material, PureTech shall have the right, at its sole discretion, to prosecute such infringement under its sole control and at its sole expense, and any recovery obtained shall belong to PureTech.

6.3 Declaratory Judgment Actions. In the event that a declaratory judgment action is brought against PureTech or the Company by a third party alleging invalidity, unenforceability, or non-infringement of the Patent Rights, PureTech, at its option, shall have the right within [***] commencement of such action to take over the sole defense of the action at its own expense. If PureTech does not exercise this right, the Company may take over the sole defense of the action at the Company's sole expense, subject to Section 6.4.

6.4 Recovery. Any recovery obtained in an action brought by the Company under Sections 6.2 or 6.3 shall be distributed as follows: (i) each Party shall be reimbursed [***] for any expenses incurred in the action from the proceeds of such action or settlement, (ii) as to ordinary damages, such amount shall be treated as Net Sales, and the Company shall pay to PureTech based upon such amount a reasonable approximation of the royalties and other amounts that the Company would have paid to PureTech if the Company had sold the infringing products, processes and services rather than the infringer, and (iii) as to special or punitive damages, the parties shall share equally in any award. Any recovery obtained in an action brought by PureTech under Sections 6.2 or 6.3 shall be distributed as follows: (i) each Party shall be reimbursed [***] for any expenses incurred in the action from the proceeds of such action or settlement and all remaining amounts shall be shared [***] to PureTech and [***] to the Company.

6.5 Cooperation. Each party agrees to cooperate in any action under this Article which is controlled by the other party, provided that the controlling party reimburses the cooperating party promptly for any costs and expenses incurred by the cooperating party in connection with providing such assistance.

6.6 Right to Sublicense. So long as the Company remains the exclusive licensee of the Patent Rights in the Field in the Territory, the Company shall have the sole right to sublicense any alleged infringer in the Field in the Territory for use of the Patent Rights in accordance with the terms and conditions of this Agreement relating to sublicenses.

7. INDEMNIFICATION

7.1 Indemnity.

(a) By the Company. The Company shall indemnify, defend, and hold harmless PureTech and its members, directors, officers, employees, agents and Affiliates and their respective successors, heirs and assigns (the "PureTech Indemnitees"), against any liability, damage, loss, or expense (including reasonable attorneys fees and expenses) incurred by or imposed upon any of the PureTech Indemnitees in connection with any third party claims, suits, actions, demands or judgments arising out of any theory of liability (including without limitation actions in the form of tort, warranty, or strict liability and regardless of whether such action has any factual basis) (a "Loss")

(i) concerning any product, process or service that is made, used, sold, imported or performed pursuant to any right or license granted under this Agreement or (ii) due to a breach of this Agreement by the Company; provided, however, that the foregoing indemnification shall not apply to any Loss to the extent such Loss is caused by the breach of this Agreement or the gross negligence or willful misconduct of a PureTech Indemnitee.

7.2 Procedures. A party seeking indemnification pursuant to Section 7.1 shall provide the indemnifying Party with prompt written notice of any claim, suit, action, demand, or judgment for which indemnification is sought under this Agreement. The indemnifying Party, at its own expense, shall provide attorneys reasonably acceptable to the indemnified party to defend against any such claim. The indemnified party shall cooperate fully with the indemnifying Party in such defense and shall permit the indemnifying Party to conduct and control such defense and the disposition of such claim, suit, or action (including all decisions relative to litigation, appeal, and settlement); provided, however, that any indemnified party shall have the right to retain its own counsel, at the expense of the indemnifying Party, if representation of such indemnified party by the counsel retained by the indemnifying Party would be inappropriate because of actual legal conflicts between such indemnified party and any other party represented by such counsel. The indemnifying Party agrees to keep the other Party informed of the progress in the defense and disposition of such claim and to consult with such Party with regard to any proposed settlement.

7.3 Insurance. Beginning at such time as any such product, process or service is being commercially distributed, sold, leased or otherwise transferred, or performed or used, by the Company, an Affiliate or any Sublicensee, the Company shall, at its sole cost and expense, procure and maintain commercial general liability insurance in amounts not less than [***] per incident and [***] annual aggregate and naming the Indemnitees as additional insureds. Such commercial general liability insurance shall provide (i) product liability coverage and (ii) broad form contractual liability coverage for Company's indemnification under Section 7.1 of this Agreement. If Company elects to self-insure all or part of the limits described above (including deductibles or retentions which are in excess of [***] annual aggregate) such self-insurance program must be acceptable to the PureTech. The minimum amounts of insurance coverage required under this Section 7.3 shall not be construed to create a limit of the Company's liability with respect to its indemnification under Section 7.1 of this Agreement. The Company shall provide PureTech with written evidence of such insurance upon request of PureTech. The Company shall provide PureTech with written notice at least [***] prior to the cancellation, non-renewal or material change in such insurance; if the Company does obtain replacement insurance providing comparable coverage prior to the expiration of such [***] period. PureTech shall have the right to terminate this Agreement effective at the end of such [***] period without notice or any additional waiting periods. The Company shall maintain such commercial general liability insurance beyond the expiration or termination of this Agreement during (i) the period that any such product, process, or service is being commercially distributed, sold, leased or otherwise transferred, or performed or used (other than for the purpose of obtaining regulatory approvals), by the Company or by a licensee, affiliate or agent of Company and (ii) a reasonable period after the period referred to in (i) above which in no event shall be less than [***] This section 7.3 shall survive expiration or termination of this Agreement.

8. REPRESENTATIONS, WARRANTIES AND COVENANTS

8.1 Representations and Warranties by each Party. Each of PureTech and the Company, with respect to itself, represents, warrants and covenants to the other that:

- (a) it is a corporation or entity duly organized and validly existing under the laws of the state or jurisdiction of its incorporation;
- (b) the execution, delivery and performance of this Agreement has been duly authorized by all requisite corporate or other action and does not require any shareholder or member action or approval;
- (c) it has the full right, power, and authority to enter into and deliver this Agreement, and that the execution of this Agreement creates a valid and binding Agreement enforceable against it in accordance with its terms;
- (d) the execution, delivery, and performance of this Agreement and its compliance with the terms and provisions hereof does not, and will not, conflict with or result in a breach of any of the terms or provisions of, or constitute a default under (i) a loan agreement, guaranty, financing agreement, agreement affecting a product or other agreement or instrument binding or affecting it or its property; (ii) the provisions of its charter or operative documents or by-laws; or (iii) any order, writ, injunction, or decree of any court or governmental authority entered against it or by which any of its property is bound; and

(e) to its knowledge, there are no existing or threatened actions, suits or claims pending against it with respect to its right to enter into and perform its obligations under this Agreement.

8.2 No Further Representations or Warranties; Damages. EXCEPT AS MAY OTHERWISE BE EXPRESSLY SET FORTH IN THIS AGREEMENT, PURETECH MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND CONCERNING (A) THE PATENT RIGHTS, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, VALIDITY OF PATENT RIGHTS CLAIMS, WHETHER ISSUED OR PENDING, (2) THE ABSENCE OF LATENT OR OTHER DEFECTS, WHETHER OR NOT DISCOVERABLE, (3) REGARDING THE VALIDITY OR SCOPE OF THE PATENT RIGHTS OR (4) THAT THE EXPLOITATION OF THE PATENT RIGHTS OR ANY LICENSED PRODUCT WILL NOT INFRINGE ANY PATENTS OR OTHER INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY.

IN NO EVENT SHALL EITHER PARTY, ITS MEMBERS, DIRECTORS, OFFICERS, EMPLOYEES, AGENTS OR AFFILIATES BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING ECONOMIC DAMAGES FOR INJURY TO PROPERTY AND LOST PROFITS, REGARDLESS OF WHETHER SUCH PARTY SHALL BE ADVISED, SHALL HAVE OTHER REASON TO KNOW, OR IN FACT SHALL KNOW OF THE POSSIBILITY OF THE FOREGOING.

9. ASSIGNMENT.

Neither Party may assign this Agreement without the written consent of the other Party, which consent shall not be unreasonably withheld or delayed. Notwithstanding the foregoing, upon written notice to the other Party, either Party may assign this Agreement to a successor to its business (whether by merger, a sale or other transfer of all or substantially all of its assets, a sale of a controlling interest of its capital stock, or otherwise) which agrees in writing to assume its obligations hereunder. This Agreement will be binding upon and inure to the benefit of the parties hereto and their respective successors and permitted assigns.

10. COVENANTS

10.1 Compliance with Laws. The Company and its Affiliates and any Sublicensees shall comply in all material respects with all commercially material applicable local, state, federal, and foreign laws and regulations relating to the development, manufacture, use, and sale of Licensed Products.

10.2 Export Control. The Company and its Affiliates and any Sublicensees shall comply with all United States laws and regulations controlling the export of certain commodities and technical data, including without limitation all Export Administration Regulations of the United States Department of Commerce. Among other things, these laws and regulations prohibit or require a license for the export of certain types of commodities and technical data to specified countries. The Company hereby gives written assurance that it will comply with, and will require its Affiliates and any Sublicensees to comply with, all United States export control laws and regulations, that it bears sole responsibility for any violation of such laws and regulations by itself or its Affiliates or any Sublicensees, and that it will indemnify, defend, and hold PureTech harmless (in accordance with Section 7) for the consequences of any such violation.

10.3 Non-Use of PureTech Name. The Company and its Affiliates and any Sublicensees shall not use the name of PureTech or any variation, adaptation, or abbreviation thereof, or of any of its employees, or agents, or any trademark owned by PureTech, or any terms of this Agreement in any promotional material or other public announcement or disclosure without the prior written consent of PureTech, except as may be required by law, stock exchange rule or other securities trading system rule.

10.4 Marking of Licensed Products. To the extent commercially feasible and consistent with prevailing business practices, the Company shall mark, and shall cause its Affiliates and any Sublicensees to mark, all Licensed Products that are manufactured or sold under this Agreement with the number of each issued patent under the Patent Rights that applies to such Licensed Product.

11. TERMINATION

11.1 Voluntary Termination by the Company. The Company shall have the right to terminate this Agreement, for any reason, from time to time upon at least [***] prior written notice to PureTech, such notice to state the date at least [***] in the future upon which termination is to be effective. Within [***] following such termination effective date, the Company shall pay to PureTech all amounts due to PureTech through such termination effective date.

11.2 Termination for Default.

(a) Nonpayment. In the event the Company fails to pay any amounts due and payable to PureTech hereunder, and fails to make such payments within [***] after receiving written notice (by certified US mail) of such failure, PureTech may terminate this Agreement immediately upon written notice to the Company.

(b) Material Breach by the Company. In the event the Company commits a material breach of its obligations under this Agreement, including a breach of any of the obligations set forth in Section 2.4 and not including for a breach as described in Section 11.2(a), and fails to cure that breach within [***] after receiving written notice thereof (by certified US mail), PureTech may terminate this Agreement immediately upon written notice to the Company.

(c) Material Breach by PureTech. In the event PureTech commits a material breach of its obligations under this Agreement and fails to cure that breach within [***] after receiving written notice thereof (by certified US mail), the Company may terminate this Agreement immediately upon written notice to PureTech.

11.3 Effect of Termination.

(a) Survival. The following provisions shall survive the expiration or termination of this Agreement: Articles 1, 3 (to the extent necessary to satisfy Section 11.3(b) and (c)), (4 to the extent necessary to provide final reports), 7, 9, 10, 11, 12 and 13.

(b) Inventory. Upon the early termination of this Agreement, the Company and its Affiliates and any Sublicensees may complete and sell any work-in-progress and inventory of Licensed Products that exist as of the Effective Date of termination, provided that (i) the Company pays PureTech the applicable running royalty or other amounts due on such sales of Licensed Products in accordance with the terms and conditions of this Agreement, and (ii) the Company and its Affiliates and any Sublicensees shall complete and sell all work-in-progress and inventory of Licensed Products within six (6) months after the Effective Date of termination.

(c) Pre-termination Obligations. In no event shall termination of this Agreement release the Company, its Affiliates, or any Sublicensees from the obligation to pay any amounts that became due on or before the effective date of such termination.

12. DISPUTE RESOLUTION.

12.1 Mandatory Procedures. The Parties agree that any dispute arising out of or relating to this Agreement shall be resolved solely by means of the procedures set forth in this Article, and that such procedures constitute legally binding obligations that are an essential provision of this Agreement. If either Party fails to observe the procedures of this Article, as may be modified by their written agreement, the other Party may bring an action for specific performance of these procedures in any court of competent jurisdiction.

12.2 Equitable Remedies. Although the procedures specified in this Article are the sole and exclusive procedures for the resolution of disputes arising out of or relating to this Agreement, either Party may seek a preliminary injunction or other provisional equitable relief if, in its reasonable judgment, such action is necessary to avoid irreparable harm to itself or to preserve its rights under this Agreement.

12.3 Dispute Resolution Procedures.

(a) Negotiation. In the event of any dispute arising out of or relating to this Agreement, the affected Party shall notify the other Party, and the Parties shall attempt in good faith to resolve the matter within [***] after the date of such notice (the "Notice Date"). Any disputes not resolved by good faith discussions shall be referred to senior executives of each Party, who shall meet at a mutually acceptable time and location within [***] after the Notice Date and attempt to negotiate a settlement.

(b) Arbitration. If the matter remains unresolved within [***] after the Notice Date, or if the senior executives fail to meet within [***] after the Notice Date, either Party shall be entitled to submit the matter to binding arbitration under the commercial arbitration rules of the American Arbitration Association. Any such arbitration shall be conducted by a panel of three arbitrators (the "Arbitration Panel") and shall be conducted in Boston, Massachusetts. PureTech on the one hand, and the Company on the other, shall each appoint one arbitrator, and the third arbitrator shall be appointed by the two arbitrators appointed by PureTech and the Company. The Arbitration Panel shall have the authority to grant specific performance and to allocate between the parties the costs of arbitration in such equitable manner as it shall determine. Judgments upon the award so rendered may be entered in any court having jurisdiction or application may be made to such court for judicial acceptance of any award and an order of enforcement, as the case may be.

13. MISCELLANEOUS.

13.1 Notice. Any notices required or permitted under this Agreement shall be in writing, shall specifically refer to this Agreement, and shall be sent by hand, recognized national overnight courier, confirmed facsimile transmission or registered or certified mail, postage prepaid, return receipt requested, to the following addresses or facsimile numbers of the parties:

If to PureTech: Daphne Zohar
PureTech Ventures, LLC
500 Boylston Street, Suite 1400
Boston, Massachusetts 02116
Tel: 617.482.2333
Fax: 617.482.3337

If to the Company: President
Karuna Pharmaceuticals, Inc.
500 Boylston Street, Suite 1040
Boston, Massachusetts 02116
Tel: 617.482.2333
Fax: 617.482.3337

All notices under this Agreement shall be deemed effective upon receipt. A party may change its contact information immediately upon written notice to the other party in the manner provided in this Section 13.1.

13.2 Governing Law. This Agreement and all disputes arising out of or related to this Agreement, or the performance, enforcement, breach or termination hereof, and any remedies relating thereto, shall be construed, governed, interpreted and applied in accordance with the laws of the Commonwealth of Massachusetts, U.S.A., without regard to conflict of laws principles, except that questions affecting the construction and effect of any patent shall be determined by the law of the country in which the patent shall have been granted.

13.3 Force Majeure. Neither party will be responsible for delays resulting from causes beyond the reasonable control of such party, including without limitation fire, explosion, flood, war, strike, or riot, provided that the nonperforming party uses commercially reasonable efforts to avoid or remove such causes of nonperformance and continues performance under this Agreement with reasonable dispatch whenever such causes are removed.

13.4 Amendment and Waiver. This Agreement may be amended, supplemented, or otherwise modified only by means of a written instrument signed by both Parties. Any waiver of any rights or failure to act in a specific instance shall relate only to such instance and shall not be construed as an agreement to waive any rights or fail to act in any other instance, whether or not similar.

13.5 Severability. In the event that any provision of this Agreement shall be held invalid or unenforceable for any reason, such invalidity or unenforceability shall not affect any other provision of this Agreement, and the parties shall negotiate in good faith to modify the Agreement to preserve (to the extent possible) their original intent. If the Parties fail to reach a modified agreement within thirty (30) days after the relevant provision is held invalid or unenforceable, then the dispute shall be resolved in accordance with the procedures set forth in Article 13. While the dispute is pending resolution, this Agreement shall be construed as if such provision were deleted by agreement of the parties.

13.6 Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties and their respective permitted successors and assigns.

13.7 Headings. All headings are for convenience only and shall not affect the meaning of any provision of this Agreement.

13.8 Entire Agreement. This Agreement constitutes the entire agreement between the parties with respect to its subject matter and supersedes all prior agreements or understandings between the parties relating to its subject matter.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives.

The Effective Date of this Agreement is March 4, 2011.

PURETECH VENTURES LLC

KARUNA PHARMACEUTICALS, INC.

By: /s/ Daphne Zohar
Name: Daphne Zohar
Title: Managing Partner

By: /s/ Edmund Harrigan
Name: Edmund Harrigan MD
Title: Chief Executive Officer

AMENDMENT NO. 1 TO EXCLUSIVE PATENT LICENSE AGREEMENT

This Amendment No. 1 ("Amendment No. 1") to the Exclusive Patent License Agreement dated as of March 1, 2011 (the "Agreement") by and among PureTech Ventures, LLC, (the "Company"), and Karuna Pharmaceuticals, Inc. (the "licensee") is entered into on this 1st day of February, 2013 (the "Amendment No. 1 Effective Date"). For purposes hereof, all capitalized terms used herein but not defined herein shall have the meanings given to them in the Agreement.

Pursuant to Section 13.4 of the Agreement, the Company and the Licensee hereby agree as follows:

1. Section 2.4 of the Agreement is hereby deleted and replaced in its entirety as follows:

Due Diligence Obligations. The Company shall use diligent efforts, and shall cause its Affiliates and any Sublicensees to use diligent efforts, to develop Licensed Products and to introduce Licensed Products into the commercial market; thereafter, the Company and its Affiliates and any Sublicensees shall maximize the commercial sales of such Licensed Products. Specifically, the Company and its Affiliates and any Sublicensees shall fulfill the following obligations:

- a. Within [***] of the Amendment No. 1 Effective Date, the Company shall initiate, defined as first dosing of patient, a trial using a Licensed Product.
- b. At any time prior to approval of a Licensed Product by the U.S. Food and Drug Administration, the Company shall not, for any consecutive [***] period, fail to initiate, defined as first dosing of patient, a human clinical study with a Licensed Product or make a regulatory submission to the U.S. Food and Drug Administration, the European Medicines Evaluation Agency, or the Japanese Ministry of Health and Welfare seeking the marketing of a License Product for the treatment of a disease.
- c. The Company shall not (i) become insolvent; (ii) make an assignment for the benefit of creditors; or (iii) have a bona fide petition in bankruptcy filed for or against it, which petition is withdrawn or dismissed within [***] of its filing.

In the event that PureTech determines that the Company (or an Affiliate or Sublicensee) has failed to fulfill its obligations under this Section 2.4, then PureTech may treat such failure as a material breach in accordance with Section 11.2(b).

2. The parties agree that the Agreement is in full force and effect as of the Amendment No. 1 Effective Date, as amended as set forth above.

IN WITNESS WHEREOF, the parties have caused this Amendment No. 1 to be executed by their duly authorized representatives as of the Amendment No. 1 Effective Date.

Karuna Pharmaceuticals, Inc.

By: /s/ Eric Elenko
Name: Eric Elenko
Title: Director

PureTech Ventures, LLC

By: /s/ Stephen Muniz
Name: Stephen Muniz
Title: Partner

AMENDMENT NO. 2 TO EXCLUSIVE PATENT LICENSE AGREEMENT

This Amendment No. 2 ("Amendment No. 2") to the Exclusive Patent License Agreement dated as of March 4, 2011 (the "Agreement") by and among PureTech Ventures, LLC (the "Company"), and Karuna Pharmaceuticals, Inc. (the "licensee") is entered into on this 25th day of February, 2015 (the "Amendment No. 2 Effective Date"). For purposes hereof, all capitalized terms used herein but not defined herein shall have the meanings given to them in the Agreement.

Pursuant to Section 13.4 of the Agreement, the Company and the Licensee hereby agree as follows:

1. Section 2.4 of the Agreement, which was first amended by Amendment No. 1 to Exclusive License Agreement dated February 1, 2013 ("Amendment No. 1"), which Amendment No. 1 deleted and replaced Section 2.4 in its entirety is hereby deleted and replaced in its entirety a second time to read as follows:

Due Diligence Obligations. The Company shall use diligent efforts, and shall cause its Affiliates and any Sublicensees to use diligent efforts, to develop Licensed Products and to introduce Licensed Products into the commercial market; thereafter, the Company and its Affiliates and any Sublicensees shall maximize the commercial sales of such Licensed Products. Specifically, the Company and its Affiliates and any Sublicensees shall fulfill the following obligations:

- a. Within [***] of the Amendment No. 2 Effective Date, the Company shall initiate, defined as first dosing of patient, a trial using a Licensed Product.
- b. At any time prior to approval of a Licensed Product by the U.S. Food and Drug Administration, the Company shall not, for any consecutive [***] period, fail to initiate, defined as first dosing of patient, a human clinical study with a Licensed Product or make a regulatory submission to the U.S. Food and Drug Administration, the European Medicines Agency, or the Japanese Ministry of Health, Labour and Welfare seeking the marketing of a Licensed Product for the treatment of a disease.
- c. The Company shall not (i) become insolvent; (ii) make an assignment for the benefit of creditors; or (iii) have a bona fide petition in bankruptcy filed for or against it, which petition is withdrawn or dismissed within [***] of its filing.

In the event that PureTech determines that the Company (or an Affiliate or Sublicensee) has failed to fulfill its obligations under this Section 2.4, then PureTech may treat such failure as a material breach in accordance with Section 11.2(b)."

2. The parties agree that the Agreement is in full force and effect as of the Amendment No. 2 Effective Date, as amended as set forth above.

IN WITNESS WHEREOF, the parties have caused this Amendment No. 2 to be executed by their duly authorized representatives as of the Amendment No. 2 Effective Date.

Karuna Pharmaceuticals, Inc.

By: /s/ Eric Elenko

Name: Eric Elenko

Title: Director

PureTech Ventures, LLC

By: /s/ Stephen Muniz

Name: Stephen Muniz

Title: Partner

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED (INDICATED BY: [***]) FROM THE EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM IF PUBLICLY DISCLOSED.

AMENDMENT NO. 3 TO EXCLUSIVE PATENT LICENSE AGREEMENT

This Amendment No. 3 ("Amendment No. 3") to the Exclusive Patent License Agreement dated as of March 4, 2011 (the "Agreement") by and among PureTech Health LLC (f/k/a PureTech Ventures, LLC) ("PureTech"), and Karuna Pharmaceuticals, Inc. (the "Company"), as previously amended by Amendment No. 1 to Exclusive License Agreement dated February 1, 2013 ("Amendment No. 1") and Amendment No. 2 to Exclusive License Agreement dated February 25, 2015 ("Amendment No. 2"), is entered into effective as of July 31, 2015 (the "Amendment No. 3 Effective Date"). For purposes hereof, all capitalized terms used herein but not defined herein shall have the meanings given to them in the Agreement.

Pursuant to Section 13.4 of the Agreement, PureTech and the Company hereby agree as follows:

1. Section 5.3 of the Agreement, as amended pursuant to Amendment 1 and Amendment 2, is hereby deleted and replaced in its entirety to read as follows:

"5.3 Reversion of Patent Rights. The Company may elect not to prosecute certain of the Patent Rights (including rights in certain countries or territories). If (i) the Company has elected not to prosecute any such Patent Rights, and (ii) any third party with a binding contractual right to prosecute such Patent Rights on behalf of the Company has waived or otherwise affirmatively elected not to exercise such right, then the Company may notify PureTech of the same and upon such notice such Patent Rights shall automatically revert to PureTech and be excluded from the definition of "Patent Rights" hereunder."

2. PureTech and the Company agree that the Agreement, as amended by Amendment No. 1 and Amendment No. 2, is in full force and effect as of the Amendment No. 3 Effective Date as amended as set forth herein.

IN WITNESS WHEREOF, the undersigned parties have caused this Amendment No. 3 to be executed by their duly authorized representatives as of the Amendment No. 3 Effective Date.

KARUNA PHARMACEUTICALS, INC.

By: /s/ Eric Elenko

Name: Eric Elenko

Title: President

PURETECH HEALTH LLC

By: /s/ Stephen Muniz

Name: Stephen Muniz

Title: EVP, Legal, Finance & Operations

DATED 18 June 2015

(1) PURETECH HEALTH PLC

- and -

(2) INVESCO ASSET MANAGEMENT LIMITED
(ACTING AS AGENT FOR AND ON BEHALF OF ITS
DISCRETIONARY MANAGED CLIENTS)

RELATIONSHIP AGREEMENT

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BETWEEN:

- (1) **PURETECH HEALTH PLC**, a company incorporated in England and Wales with company number 09582467, whose registered office is at 5th Floor, 6 St Andrew Street, London EC4A 3AE, United Kingdom ("**Company**"); and
- (2) **INVESCO ASSET MANAGEMENT LIMITED**, a company incorporated in England and Wales with company number 00949417, whose registered office is at Perpetual Park, Perpetual Park Drive, Henley-On-Thames, Oxfordshire, RG9 IHH United Kingdom ("**Shareholder**").

RECITALS:

- A Application has been made or will be made by the Company for all of the Ordinary Shares to be admitted to the Official List and to be admitted to trading on the main market for listed securities of the London Stock Exchange ("**Admission**").
- B It is expected that upon Admission the Shareholder will exercise or control on its own or together with certain of its associates, and together with any person with whom they are acting in concert (or deemed to be acting in concert), more than 30 per cent. of the votes able to be cast on all or substantially all matters at general meetings of the Company.
- C In contemplation of Admission, the Company and the Shareholder have agreed to enter into this Deed to record the current and future basis of the Shareholder's relationship with the Company as a Controlling Shareholder so that the Company can demonstrate that there are appropriate measures in place to regulate their relationship and to deliver effective independence. Furthermore, the Company wishes to enter into this Deed with the Shareholder pursuant to LR 6.1.4BR which includes a requirement for the Company, as a company with a Controlling Shareholder admitted to listing on the premium listing segment of the Official List, to have in place a written and legally binding agreement with such Controlling Shareholder containing certain provisions intended to ensure that the independence of the Company is safeguarded.

IT IS AGREED:

1. DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this Deed, the following words, expressions and abbreviations shall have the following meanings (except where the context otherwise requires):

"**acting in concert**" means acting together with another entity (or a number of entities) to control or exercise 30 per cent. or more of the votes able to be cast on all or substantially all matters at general meetings of the Company as referred to in the context of Chapter 6 of the Listing Rules and the definition of "controlling shareholder" in the Listing Rules;

"**Admission**" shall have the meaning ascribed to it in recital A of this Deed;

"**Announcements**" means any press announcement by the Company in connection with Admission;

“Articles” mean the articles of association of the Company as amended from time to time;

“Associate” means any legal or natural person which falls within the definition of an Associate in the Listing Rules;

“Business Day” means any day (other than a Saturday or Sunday or public holiday) on which banks generally are open in the City of London for the transaction of normal banking **business**;

“CJA” means the Criminal Justice Act 1993;

“Companies Law” means the Companies Act 2006;

“Company Group” means the Company, its subsidiary undertakings and its operating companies from time to time and references to a “member of the Company Group” shall be construed accordingly;

“Confidential Information” has the meaning set out in clause 5.4;

“Controlling Shareholder” has the meaning given to the definition of “controlling shareholder” in the Listing Rules;

“Disclosure and Transparency Rules” means the rules made by the FCA relating to the disclosure of information pursuant to Part VI of the FSMA;

“FCA” means the UK Financial Conduct Authority or its successor in respect of the regulation of listed companies and securities;

“FSMA” means the Financial Services and Markets Act 2000 (as amended from time to time);

“Invesco Funds” means Invesco Perpetual Income Fund, Invesco Perpetual High Income Fund, Invesco Perpetual UK Equity Pension Fund, Invesco Perpetual UK Strategic Income Fund and Invesco Perpetual Distribution Fund;

“Listing Rules” means the listing rules made by the FCA pursuant to Part VI of the FSMA;

“London Stock Exchange” means the London Stock Exchange plc;

“Minimum Interest” means an interest of 30 per cent or more of the issued share capital of the Company (or which carries 30 per cent or more of the aggregate Voting Rights in the Company from time to time);

“Official List” means the official list maintained by the FCA;

“Ordinary Share” means an ordinary share in the capital of the Company having the rights set out in the A11icles;

“Prospectus” means the document prepared by the Company in connection with Admission and to be approved by the FCA in accordance with the Listing Rules;

“Prospectus Rules” means the prospectus rules made by the FCA pursuant to Part VI of the FSMA;

“subsidiary undertaking” means, in relation to a company, any subsidiary undertaking of such company as defined in section 1162 of the Companies Act 2006 and “subsidiaries” shall mean all subsidiary undertakings of such company;

“Takeover Code” means the City Code on Takeovers and Mergers or any successor code or other regime (whether statutory or non-statutory) governing the conduct of takeovers and mergers in the United Kingdom;

“undertaking” means a company, body corporate, partnership, joint venture or other economic enterprise (whether or not a body corporate) carrying on a business (whether or not for profit); and

“Voting Rights” means, in relation to any undertaking, voting rights attaching to securities of the relevant undertaking which are generally exercisable at meetings of security holders of the relevant undertaking.

1.2 Interpretation

In this Deed (except where the context otherwise requires):

- 1.2.1 clause and paragraph headings and any table of contents are inserted for ease of reference only and shall not affect construction;
- 1.2.2 any reference to a **“party”** is to a party to this Deed;
- 1.2.3 any reference to a recital or clause is to the relevant recital or clause to this Deed;
- 1.2.4 any reference to **“include”** or **“including”** (or any similar term) is not to be construed as implying any limitation and general words introduced by the word **“other”** (or any similar term) shall not be given a restrictive meaning by reason of the fact that they are preceded by words indicating a particular class of acts, matters or things;
- 1.2.5 any reference to a person shall include any individual, firm, body corporate, **association, joint venture, partnership, government, state or agency of state, in** each case whether or not having a separate legal personality. Reference to a company shall be construed so as to include any company, corporation or other body corporate wherever and however incorporated or established;
- 1.2.6 references to the Prospectus Rules, the Listing Rules, the Disclosure and Transparency Rules, the Companies Law, the Takeover Code, the CJA and the FSMA and to any statutes or statutory provisions include any code, regulation, statute or statutory provision which amends, extends, consolidates or replaces the same, or which has been amended, extended, consolidated or replaced by the same, and shall include any orders, regulations, instruments or other subordinate legislation made under the relevant statute or statutory provision;
- 1.2.7 any reference to a deed or other document or any provisions thereof is a reference thereto as it is in force for the time being and from time to time as amended, supplemented, novated, or replaced;
- 1.2.8 all representations, warranties, covenants, undertakings and obligations in this Deed given to or enforceable by the Shareholder shall be deemed also to have been given to and be enforceable separately by each of the Invesco Funds and/or by the Shareholder on behalf of the Invesco Funds.

1.2.9 any reference to “**writing**” or “**written**” includes any method of reproducing words or text in a legible and non-transitory form but, for the avoidance of doubt, shall not include email; and

1.2.10 references to times of the day are to the time in London in the United Kingdom.

2. CONDITION PRECEDENT

2.1 Deed conditional upon Admission

This Deed is conditional upon, and shall come into force on, Admission (the “**Condition Precedent**”).

2.2 Long stop date

In the event that Admission has not occurred on or before 30 June 2015 (or such later date as is agreed between the parties in writing), this Deed shall be null and void and of no further force or effect and no party shall have any claim in respect of this Deed against any other party for costs, damages, compensation or otherwise.

3. CONDUCT OF TRANSACTIONS AND RELATIONSHIPS

3.1 The Shareholder shall and shall procure that each of its Associates and any person with whom they are acting in concert shall:

3.1.1 make and conduct all transactions, agreements and relationships with the Company and any other member of the Company Group at arm’s length and on normal commercial terms (and the parties hereby acknowledge that this Deed has been concluded on such a basis);

3.1.2 not take any action that would, or would be reasonably likely to, have the effect of preventing the Company or any other member of the Company Group from complying with its obligations under the Listing Rules;

3.1.3 not propose or procure the proposal of a shareholder resolution which is intended or appears to be intended to circumvent the proper application of the Listing Rules; and

3.1.4 not exercise any of its voting or other rights and powers:

3.1.4.1 to procure or propose, or vote in favour of, any resolution for any amendment to the Articles of the Company which would be inconsistent with, undermine or breach any of the provisions of this Deed or the Listing Rules or would be contrary to the principle of the independence of the Company from the Shareholder and its **Associates**; **or**

3.1.4.2 in a manner which would be inconsistent with, or breach any of the provisions of, this Deed, the Listing Rules or the Disclosure and Transparency Rules.

- 3.2 Where any obligations that the Company is in the future required to impose on the Controlling Shareholder (or its Associates or persons with whom it is acting in concert) to ensure that the Listing Rules (if amended) are complied with in full are not satisfied under the terms of this Deed, the parties agree to negotiate in good faith to amend the terms of this Deed to give effect to the Listing Rules (as amended).
- 3.3 Nothing in this Deed is intended to prevent the Shareholder, any of its Associates or persons with whom it is acting in concert, from acquiring or disposing of any securities of the Company (save to the extent otherwise required by law or regulation).

4. INFORMATION COVENANT

- 4.1 The Shareholder acknowledges that, pursuant to Listing Rule 9.8.4R(14), the Company will be required to include in each annual financial report certain statements made by the Board confirming that amongst other things:
- 4.1.1 the Company has entered into all agreements required under Listing Rule 9.2.2AR; and
- 4.1.2 the Company has complied with the independence provisions set out in Clauses 3. I. I to 3.1.4 above throughout the accounting period covered by the annual financial report,
- or else to confirm that the FCA has been notified and to include statements to the effect that such agreements have not been entered into and/or complied with and a description of the reasons therefor to enable shareholders to evaluate the impact of non-compliance, as the case may be.
- 4.2 The Shareholder covenants to provide all information (as to the compliance of itself and/or any member of the Shareholder group with the requirements of Clause 3.1) within a reasonable timeframe that may be reasonably requested by or on behalf of the Board in order to support the statements required to be made by the Board as described in Clause 4.1.

5. CONFIDENTIAL INFORMATION

- 5.1 The Shareholder shall ensure that any Confidential Information (as hereinafter defined) which it acquires in connection with this Deed shall be treated as confidential by it.
- 5.2 Subject to the exceptions stated in clause 5.3, the Shareholder shall not disclose or use Confidential Information for any purpose whatsoever other than for the purposes of properly performing its obligations under this Deed.
- 5.3 Confidential Information shall be maintained as confidential by the Shareholder and may only be disclosed:
- 5.3.1 to such of its Associates and its or their respective employees, officers, directors and/or members who reasonably require such disclosure (on the basis that such person(s) are required to comply with this clause 5.3 as if they were subject to these obligations);
- 5.3.2 to its legal, accounting, insurance and other professional advisers (on the basis that such person(s) are required to comply with this clause 5 as if they were subject to these obligations);

- 5.3.3 to the tax or VAT authorities, any regulatory authority, and any other governmental or public authority or officer, but only to the extent that such persons require such disclosure for the proper discharge of their functions;
 - 5.3.4 where required, in connection with any legal proceedings; and
 - 5.3.5 in compliance with any law or regulation, or if required by or for the purpose of listing, or maintaining a listing of securities on, or complying with the rules of any stock exchange.
- 5.4 For the purpose of this Deed, “**Confidential Information**” means any information of a secret, price sensitive or confidential nature acquired from and concerning the Company Group from time to time or its affairs, whether in written or oral form, save that the Shareholder shall not be obliged to maintain in confidence any such information if the information:
- 5.4.1 was in the possession of or was known to the Shareholder prior to its receipt from the Company (other than through a breach of this clause 5); or
 - 5.4.2 is independently developed or acquired by the Shareholder without the utilisation of such Confidential Information; or
 - 5.4.3 is or becomes public knowledge without the fault of the Shareholder; or
 - 5.4.4 is or becomes available to the Shareholder from a source other than the Company, in circumstances where the Shareholder concerned is not aware that disclosure has been made in breach of an obligation of confidentiality.
- 5.5 The Shareholder agrees and undertakes to the Company that it will procure so far as it is reasonably able that its permitted disclosees as set out in clause 5.3 treat all Confidential Information which comes into the possession of such persons as confidential.

6. INSIDE INFORMATION

- 6.1 The Shareholder acknowledges that the information disclosed to it by or on behalf of the Company or any other member of the Company Group may be inside information in relation to the Ordinary Shares for the purposes of the CJA and/or the FSMA and accordingly the Shareholder undertakes that it shall not (and shall use all reasonable endeavours to procure that none of its Associates or any person with whom it is acting in concert shall not):
- 6.1.1 deal in securities that are price affected securities (as defined in the CJA) in relation to such inside information, encourage another person to deal in price affected securities or disclose the information except as permitted by the CJA, in each case before the inside information is made public;
 - 6.1.2 deal or attempt to deal in a qualifying investment or related investment (as defined in the FSMA) on the basis of such inside information;
 - 6.1.3 engage in behaviour based on any such inside information which would amount to market abuse for the purposes of the FSMA; or
 - 6.1.4 otherwise breach the requirements of any laws, rules and regulations in relation to dealings in the Company’s securities which apply to the Shareholder, any of its Associates or any person with whom it is acting in concert.

7. ANNOUNCEMENTS

Except for (i) the Prospectus and any preliminary or supplementary documents thereto; (ii) any Announcements; and (iii) the documents relating to the Admission and identified in the Prospectus (or any preliminary or supplementary documents thereto) as to be made available on display by the Company pursuant to the Prospectus Rules, no party shall make, and shall use all reasonable endeavours to procure that none of such party's Associates makes, any announcement or publish any circular in connection with the existence or the subject matter of this Deed or referring to any other party without the prior written approval of the other party. This shall not affect any announcement or circular required by law or any regulatory body or the rules of the London Stock Exchange, but a party with an obligation to make an announcement or issue a circular shall consult with the other party insofar as is reasonably practicable as to the content, timing and manner of such an announcement or circular before complying with such an obligation.

8. OVERRIDING OBLIGATIONS

- 8.1** For the avoidance of doubt, the obligations of each of the parties pursuant to this Deed shall at all times be subject to all relevant legal and regulatory requirements and obligations of the United Kingdom, including, without limitation, the obligations of the parties in the United Kingdom or elsewhere including, without limitation, the requirements of the Disclosure and Transparency Rules, the Listing Rules, the Prospectus Rules, the Companies Law, the Takeover Code, the FCA, the CJA, the FSMA and the London Stock Exchange. Each party shall act in accordance with each of such requirements and obligations applicable to it and no party shall be required to take any action in breach of any such requirement or obligation applicable to it.
- 8.2** In the event of any conflict between the provisions of this Deed and the Articles, the provisions of this Deed shall prevail as between the parties to the extent permitted by applicable law and regulation.

9. TERMINATION OF DEED

- 9.1** This Deed shall come into force upon satisfaction of the Condition Precedent and shall continue in full force and effect for so long as the Shareholder, any of its Associates and any person with whom it is acting in concert, in aggregate hold a Minimum Interest or is otherwise a Controlling Shareholder, save that the termination and cessation of this Deed shall not relieve any party from any liability or obligation in respect of any matters, undertakings or conditions which shall not have been done, observed or performed by that party prior to such **termination**.
- 9.2** This Deed shall terminate immediately upon the cancellation of Admission whereupon, other than in relation to any pre-existing breach of any provision of this Deed, no party shall have any rights or obligations under this Deed.
- 9.3** The Shareholder may terminate this Deed immediately at any time by notice to the Company if the Company has a receiver, administrative receiver, administrator or manager appointed over the whole or the majority of it or its assets or business, makes any composition or arrangement with its creditors or an order or resolution is made for its dissolution or liquidation (other than for the purpose of solvent amalgamation or reconstruction), or takes or suffers any similar or analogous procedure, action or event in consequence of debt in any jurisdiction.
- 9.4** Clauses 1, 4, 6, 9.4 and 10 to 20 shall survive the termination of this Deed for any reason.

10. VARIATION, WAIVER AND CONSENT

- 10.1** No variation or waiver of any provision or condition of this Deed shall be effective unless it is in writing and signed by or on behalf of each of the parties (or, in the case of a waiver, by or on behalf of the party waiving compliance).
- 10.2** Unless expressly agreed, no variation or waiver of any provision or condition of this Deed shall constitute a general variation or waiver of any provision or condition of this Deed, nor shall it affect any rights, obligations or liabilities under or pursuant to this Deed which have already accrued up to the date of variation or waiver, and the rights and obligations of the parties under or pursuant to this Deed shall remain in full force and effect, except and only to the extent that they are so varied or waived.
- 10.3** Any consent granted under this Deed shall be effective only if given in writing and signed by the consenting party and then only in the instance and for the purpose for which it was given.

11. FURTHER ASSURANCE

At any time after the date of this Deed, the Shareholder shall, and shall procure that any necessary third party shall, execute such documents and do such acts and things as the Company may reasonably require for the purpose of giving the Company the full benefit of all the provisions of this Deed in relation to the obligations of the Shareholder.

12. ASSIGNMENT

The rights and benefits of this Deed (together with any cause of action arising in connection with any of them) may not be assigned by any party to any other person without the prior written consent of the other party.

13. SEVERABILITY

- 13.1** Each provision of this Deed is severable and distinct from the others. The Shareholder and the Company intend that every such provision shall be and remain valid and enforceable to the fullest extent permitted by law. If any such provision is or at any time becomes to any extent invalid, illegal or unenforceable under any enactment or rule of law, it shall to that extent be deemed not to form part of this Deed but (except to that extent in the case of that provision) it and all other provisions of this Deed shall continue in full force and effect.
- 13.2** In particular, but without prejudice to the generality of the foregoing, the provisions of clause 3 are believed by both the Shareholder and the Company to be reasonable and legitimate to protect the interests of the Company. If any such provision is subsequently judged to be invalid or unenforceable, but would have been enforceable had it been subject to some restriction in duration or geographical scope, then the provision will take effect subject to such restriction.

14. ENTIRE AGREEMENT

- 14.1** This Deed together with the Articles constitutes the entire agreement and supersedes any previous agreements between the parties relating to its subject matter.
- 14.2** Each party acknowledges and agrees that no representations were made which are not set out in this Deed but that, if any were made, it has not relied on, or been induced to enter into this Deed by, any information, statements, warranties or representations of any description, whether written or oral, made, supplied or given by or on behalf of the other party in relation to the subject matter of this Deed or otherwise.

15. **GOVERNING LAW AND JURISDICTION**

15.1 This Deed and any dispute or claim arising out of or in connection with this Deed, its subject matter or formation (including any non-contractual dispute or claim) are governed by and shall be construed in accordance with English Law.

15.2 Each party irrevocably agrees that the courts of England and Wales shall have exclusive jurisdiction to settle any dispute or claim arising out of or in connection with this Deed, its subject matter or formation (including any non-contractual dispute or claim).

16. **NOTICES**

16.1 **Method of serving notice**

Any notice, demand or other communication ("**Notice**") to be given by one party to any other party under this Deed shall be in the English language in writing and signed by or on behalf of the party giving it. It shall be served by sending it by fax to the number set out in clause 16.2 and marked for the attention of the relevant addressee set out in clause 16.2 (or as otherwise notified from time to time in accordance with the provisions of this clause 16.1), provided always that a copy of such Notice shall also be sent by email for information purposes only. Any notice so served by fax (and copied by email) shall be deemed to have been duly given:

16.1.1 in the case of fax, at the time of transmission;

16.1.2 in the case of email, at the expiration of two hours after the time the email was **sent**,

provided that in each case where delivery by fax or email occurs after 6.00 p.m. on a Business Day or on a day which is not a Business Day, service shall be deemed to occur at 9.00 a.m. on the next following Business Day.

16.2 **Addresses for service**

The fax number and email address of the parties for the purpose of clause 16.1 are as follows:

Company: PureTech Health plc, Attention of Stephen Muniz

Fax: +] 617 482 3337

Email: sm@puretechhealth.com

Shareholder: Invesco Asset Management Limited, Attention of Charles Henderson

Fax: +44(0) 1491416000

Email: Charles_Henderson@invescoperpetual.co.uk

16.3 Changes of details

A party may notify any other party to this Deed of a change to its name, fax number or email for the purposes of clause 16.1 provided that, such notice shall only be effective on:

16.3.1 the date specified in the notice as the date on which the change is to take place; or

16.3.2 if no date is specified or the date specified is less than five Business Days after the date on which notice is given, the date following five Business Days after notice of any change has been given.

16.4 Proof of service

In proving such service it shall be sufficient to prove that (i) the fax transmission was made and a fax confirmation report was received, and/or (ii) in the case of email, that such email was properly addressed. For the avoidance of doubt, no notice or other communications to any party may be delivered by email only.

17. COUNTERPARTS

This Deed may be executed in any number of counterparts and by the parties to it on separate counterparts and each such counterpart shall constitute an original of this Deed but all of which together constitute one and the same instrument. This Deed shall not be effective until each party has executed at least one counterpart.

18. COSTS

Each party shall be responsible for its own legal, accountancy and other costs, charges and expenses incurred in connection with the negotiation, preparation, execution and implementation by it of this Deed and any document referred to in it.

19. NO PARTNERSHIP OR AGENCY

No provision of this Deed creates a partnership between the parties or makes a party the agent of the other parties for any purpose. A party has no authority to bind, to contract in the name of or to create a liability for the other parties in any way or for any purpose and no party shall hold itself out as having authority to do the same.

20. THIRD PARTY RIGHTS

Save as set out in Clause 1.2.8, the operation of the Contracts (Rights of Third Parties) Act 1999 is hereby excluded in relation to this Deed and a person who is not a Party to this Deed shall have no right under the Contracts (Rights of Third Parties) Act 1999 to enforce any of its **terms**.

IN WITNESS of which this Deed has been executed and has been delivered on the date which appears above.

Executed as a deed by **PURETECH**)
HEALTH PLC by a director in the presence)
of a witness:)
)

Signature: /s/ Stephen Muniz

Name (block capitals): **STEPHEN MUNIZ**
Director

Witness signature /s/ Caroline Magor

Witness name (block capitals) **CAROLINE MAGOR**

Witness address: DLA Piper UK LLP
3 Noble Street
London EC2V 7EE

Executed as a deed by **INVESCO ASSET**)
MANAGEMENT LIMITED acting as agent)
for and on behalf of its discretionary managed)
clients by a director in the presence of a)
witness:

Signature: /s/ Graeme Proudfoot

Name (block capitals): **Graeme Proudfoot**
Director

Witness signature: /s/ Beverly Young

Witness name: Beverly Young
(block capitals)

Witness address: 125 London Wall
London, EC2Y SAS