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

FORM 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended March 31, 2020

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission File Number: 001-37766

INTELLIA THERAPEUTICS, INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**36-4785571**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**
40 Erie Street, Suite 130, Cambridge, Massachusetts	**02139**
(Address of Principal Executive Offices)	**(Zip Code)**

857-285-6200
(Registrant's Telephone Number, Including Area Code)

Securities Registered Pursuant to Section 12(b) of the Act:

Title of each Class	Trade Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.0001 per share	NTLA	The Nasdaq Global Market

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, smaller reporting company, or an emerging growth company. See definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
Emerging growth company	☐		

If an emerging growth company, 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. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

The number of shares outstanding of the registrant's common stock as of May 1, 2020: 51,380,479 shares.

PART I - FINANCIAL INFORMATION

PART II - OTHER INFORMATION

PART I – FINANCIAL INFORMATION

Item 1. Financial Statements

INTELLIA THERAPEUTICS, INC.
Condensed Consolidated Balance Sheets (unaudited)
(Amounts in thousands except share and per share data)

	March 31, 2020	December 31, 2019
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 80,993	$ 57,226
Marketable securities	169,266	222,500
Accounts receivable	13,368	4,620
Prepaid expenses and other current assets	6,133	5,135
Total current assets	269,760	289,481
Marketable securities - noncurrent	-	4,746
Property and equipment, net	17,251	17,996
Operating lease right-of-use assets	24,918	19,137
Other assets	2,823	2,920
Total Assets	$ 314,752	$ 334,280
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	$ 3,870	$ 3,941
Accrued expenses	13,102	13,273
Current portion of operating lease liability	5,693	5,745
Current portion of deferred revenue	12,639	12,674
Total current liabilities	35,304	35,633
Deferred revenue, net of current portion	13,020	16,136
Long-term operating lease liability	18,669	12,630
Other long-term liabilities	-	-
Commitments and contingencies (Note 6)		
Stockholders' Equity:		
Common stock, $0.0001 par value; 120,000,000 shares authorized; 50,602,875 and 50,198,044 shares issued and outstanding at March 31, 2020 and December 31, 2019, respectively	5	5
Additional paid-in capital	580,065	570,493
Accumulated other comprehensive income	373	261
Accumulated deficit	(332,684)	(300,878)
Total stockholders' equity	247,759	269,881
Total Liabilities and Stockholders' Equity	$ 314,752	$ 334,280

See notes to condensed consolidated financial statements.

INTELLIA THERAPEUTICS, INC.
Condensed Consolidated Statements of Operations and Comprehensive Loss (unaudited)
(Amounts in thousands except per share data)

	Three Months Ended March 31,	
	2020	2019
Collaboration revenue	$ 12,916	$ 10,433
Operating expenses:		
Research and development	34,650	23,709
General and administrative	11,314	10,533
Total operating expenses	45,964	34,242
Operating loss	(33,048)	(23,809)
Interest income	1,242	1,869
Net loss	$ (31,806)	$ (21,940)
Net loss per share, basic and diluted	$ (0.63)	$ (0.49)
Weighted average shares outstanding, basic and diluted	50,491	45,234
Other comprehensive loss:		
Unrealized gain on marketable securities	112	87
Comprehensive loss	$ (31,694)	$ (21,853)

See notes to condensed consolidated financial statements.

INTELLIA THERAPEUTICS, INC.
Condensed Consolidated Statements of Cash Flows (unaudited)
(Amounts in thousands)

	Three Months Ended March 31,	
	2020	**2019**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (31,806)	$ (21,940)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	1,541	1,300
Equity-based compensation	4,157	4,592
Accretion of investment discounts	(200)	(1,422)
Changes in operating assets and liabilities:		
Accounts receivable	(8,748)	3,956
Prepaid expenses and other current assets	(448)	(150)
Operating right-of-use assets	1,566	1,299
Other assets	97	84
Accounts payable	(370)	1,356
Accrued expenses	177	(2,605)
Deferred revenue	(3,151)	(6,842)
Operating lease liabilities	(1,360)	(1,081)
Net cash used in operating activities	(38,545)	(21,453)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property and equipment	(845)	(1,533)
Purchases of marketable securities	(31,207)	(19,272)
Maturities of marketable securities	89,500	26,500
Net cash provided by investing activities	57,448	5,695
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from common stock offerings, net of offering costs	4,528	3,639
Proceeds from options exercised	336	360
Net cash provided by financing activities	4,864	3,999
Net increase (decrease) in cash and cash equivalents	23,767	(11,759)
Cash and cash equivalents, beginning of period	57,226	58,856
Cash and cash equivalents, end of period	$ 80,993	$ 47,097
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:		
Purchases of property and equipment unpaid at period end	$ 750	$ 446
Right-of-use assets acquired under operating leases	7,347	-
Proceeds from at-the-market offerings unpaid at period end	551	-

See notes to condensed consolidated financial statements.

1. Overview and Basis of Presentation

Intellia Therapeutics, Inc. ("Intellia" or the "Company") is a leading genome editing company focused on developing curative therapeutics utilizing a biological tool known as CRISPR/Cas9, which stands for Clustered, Regularly Interspaced Short Palindromic Repeats ("CRISPR")/CRISPR associated 9 ("Cas9"). This is a technology for genome editing, the process of altering selected sequences of genomic deoxyribonucleic acid ("DNA"). The Company believes that CRISPR/Cas9 technology has the potential to transform medicine by editing disease-associated genes with a single treatment course, and that it can also be used to create novel engineered cell therapies that can replace a patient's diseased cells or effectively target various cancers and autoimmune diseases. The Company is leveraging its leading scientific expertise, clinical development experience and intellectual property ("IP") position to unlock a broad set of therapeutic applications for CRISPR/Cas9 genome editing and to develop a potential new class of therapeutic products.

The condensed consolidated financial statements of the Company included herein have been prepared, without audit, pursuant to the rules and regulations of the Securities and Exchange Commission ("SEC"). Certain information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") have been condensed or omitted from this report, as is permitted by such rules and regulations. Accordingly, these condensed consolidated financial statements should be read in conjunction with the financial statements and notes thereto included in the Company's Annual Report on Form 10-K ("Annual Report") for the year ended December 31, 2019.

The unaudited condensed consolidated financial statements include the accounts of Intellia Therapeutics, Inc. and its wholly owned, controlled subsidiary, Intellia Securities Corp. All intercompany balances and transactions have been eliminated in consolidation. Comprehensive loss is comprised of net loss and gain/loss on marketable securities.

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates, judgments and assumptions that affect the amounts reported in the financial statements and accompanying notes. Significant estimates in these condensed consolidated financial statements have been made in connection with the calculation of revenues, research and development expenses and equity-based compensation expense. The Company bases its estimates on historical experience and various other assumptions that management believes to be reasonable under the circumstances at the time such estimates are made. Actual results could differ from those estimates. The Company periodically reviews its estimates in light of changes in circumstances, facts and experience. The extent of the impact of the coronavirus disease 19 ("COVID-19") pandemic on the Company's operational and financial performance will depend on certain developments, including the length and severity of this pandemic, as well as its effect on our employees, collaborators and vendors, all of which are uncertain and cannot be predicted. The Company cannot reasonably estimate the extent to which the disruption may materially impact its consolidated results of operations or financial position.

The effects of material revisions in estimates are reflected in the condensed consolidated financial statements prospectively from the date of the change in estimate. Certain prior year amounts have been reclassified in order to conform to the current year presentation.

In the opinion of management, the information furnished reflects all adjustments, all of which are of a normal and recurring nature, necessary for a fair presentation of the results for the reported interim periods. The Company considers events or transactions that occur after the balance sheet date but before the financial statements are issued to provide additional evidence relative to certain estimates or to identify matters that require additional disclosure. The results of operations for interim periods are not necessarily indicative of results to be expected for the full year or any other interim period.

Liquidity

Since its inception through March 31, 2020, the Company has raised an aggregate of $658.7 million to fund its operations, of which $155.5 million was through its collaboration agreements, $170.5 million was from its initial public offering and concurrent private placements, $141.0 million was from a follow-on public offering, $106.7 million was from at-the-market offerings and $85.0 million was from the sale of convertible preferred stock. The Company expects that its cash, cash equivalents and marketable securities as of March 31, 2020, as well as research and cost reimbursement funding from its collaboration agreement with Regeneron, will enable the Company to fund its ongoing operating expenses and capital expenditure requirements for at least the twelve-month period following the issuance of these condensed consolidated financial statements.

2. Summary of Significant Accounting Policies

The Company's significant accounting policies are described in Note 2, "Summary of Significant Accounting Policies" to the consolidated financial statements included in the Annual Report for the year ended December 31, 2019. There have been no material changes during the three months ended March 31, 2020, other than as noted below.

Recent Accounting Pronouncements – Adopted

In August 2018, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement* ("ASU 2018-13"). The new standard modifies disclosure requirements related to fair value measurement. The Company adopted ASU 2018-13 on January 1, 2020. The adoption did not have a material impact on the Company's condensed consolidated financial statements as of and for the three months ended March 31, 2020.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"). The standard changes how credit losses are measured for most financial assets and certain other instruments. For trade and other receivables, the standard requires the use of a new forward-looking "expected credit loss" model that generally will result in the earlier recognition of allowances for losses. For available-for-sale debt securities with unrealized losses, the standard now requires allowances to be recorded instead of reducing the amortized cost of the investment. With certain exceptions, the guidance is applied using a modified retrospective approach by reflecting adjustments through a cumulative-effect impact to retained earnings as of the beginning of the fiscal year of adoption. The Company adopted ASU 2016-13 on January 1, 2020. The adoption did not have a material effect on the Company's condensed consolidated financial statements as of and for the three months ended March 31, 2020.

Recent Accounting Pronouncements – Issued but not yet adopted

In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* ("ASU 2019-12"), which is intended to simplify the accounting for income taxes. ASU 2019-12 removes certain exceptions to the general principles in Topic 740 and also clarifies and amends existing guidance to improve consistent application. The amendments in ASU 2019-12 are effective for fiscal years beginning after December 15, 2020, including interim periods therein. Early adoption of the standard is permitted. The Company does not anticipate that the adoption of ASU 2019-12 will have a material effect on the Company's condensed consolidated financial statements.

3. Marketable Securities

The following table summarizes the Company's available-for-sale marketable securities as of March 31, 2020 and December 31, 2019 at net book value:

	March 31, 2020			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
	(In thousands)			
Marketable securities:				
U.S. Treasury securities	$ 101,432	$ 381	$ -	$ 101,813
Financial institution debt securities	54,019	20	(27)	54,012
Corporate debt securities	4,942	-	-	4,942
Other asset-backed securities	8,499	-	-	8,499
Total	$ 168,892	$ 401	$ (27)	$ 169,266

	December 31, 2019			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
	(In thousands)			
Marketable securities:				
U.S. Treasury securities	$ 159,361	$ 142	$ (1)	$ 159,502
Financial institution debt securities	40,173	105	-	40,278
Corporate debt securities	18,966	1	-	18,967
Other asset-backed securities	8,485	14	-	8,499
Total	$ 226,985	$ 262	$ (1)	$ 227,246

The amortized cost of available-for-sale securities is adjusted for amortization of premiums and accretion of discounts to maturity. At March 31, 2020 and December 31, 2019, the balance in the Company's accumulated other comprehensive income was composed of activity related to the Company's available-for-sale marketable securities. There were no material realized gains or losses in the three months ended March 31, 2020 or for the year ended December 31, 2019 and, as a result, the Company did not reclassify any amounts out of accumulated other comprehensive income during the period. The Company did not have any securities in a material unrealized loss position at March 31, 2020.

The Company's available-for-sale securities that are classified as short-term marketable securities in the condensed consolidated balance sheet mature within one year or less as of the balance sheet date. Available-for-sale securities that are classified as noncurrent in the condensed consolidated balance sheet mature after one year but within five years from the balance sheet date. At March 31, 2020 and December 31, 2019, the Company did not hold any investments that matured beyond five years of the balance sheet date.

4. Fair Value Measurements

The Company classifies fair value-based measurements using a three-level hierarchy that prioritizes the inputs used to measure fair value. This hierarchy requires entities to maximize the use of observable inputs and minimize the use of unobservable inputs. The three levels of inputs used to measure fair value are as follows: Level 1, quoted market prices in active markets for identical assets or liabilities; Level 2, observable inputs other than quoted market prices included in Level 1, such as quoted market prices for markets that are not active or other inputs that are observable or can be corroborated by observable market data; and Level 3, unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities, including certain pricing models, discounted cash flow methodologies and similar techniques that use significant unobservable inputs.

As of March 31, 2020 and December 31, 2019, the Company's financial assets recognized at fair value on a recurring basis consisted of the following:

	Fair Value as of March 31, 2020			
	Total	Level 1	Level 2	Level 3
	(In thousands)			
Cash equivalents	$ 77,382	$ 77,382	$ -	$ -
Marketable securities:				
U.S. Treasury securities	101,813	101,813	-	-
Financial institution debt securities	54,012	-	54,012	-
Corporate debt securities	4,942	-	4,942	-
Other asset-backed securities	8,499	-	8,499	-
Total marketable securities	169,266	101,813	67,453	-
Total	$ 246,648	$ 179,195	$ 67,453	$ -

	Fair Value as of December 31, 2019			
	Total	Level 1	Level 2	Level 3
	(In thousands)			
Cash equivalents	$ 46,917	$ 46,917	$ -	$ -
Marketable securities:				
U.S. Treasury securities	159,502	159,502	-	-
Financial institution debt securities	40,278	-	40,278	-
Corporate debt securities	18,967	-	18,967	-
Other asset-backed securities	8,499	-	8,499	-
Total marketable securities	227,246	159,502	67,744	-
Total	$ 274,163	$ 206,419	$ 67,744	$ -

The Company's financial assets, which include cash equivalents and marketable securities, have been initially valued at the transaction price, and subsequently revalued at the end of each reporting period, utilizing third-party pricing services or other observable market data. The pricing services utilize industry standard valuation models and observable market inputs to determine value. After completing our validation procedures, the Company did not adjust or override any fair value measurements provided by the pricing services as of March 31, 2020 or December 31, 2019.

Other financial instruments, including accounts receivable, accounts payable and accrued expense, are carried at cost, which approximate fair value due to the short duration and term to maturity.

5. Accrued Expenses

Accrued expenses consisted of the following:

	March 31, 2020	December 31, 2019
	(In thousands)	
Accrued research and development	$ 6,324	$ 4,208
Employee compensation and benefits	3,172	6,311
Accrued legal and professional expenses	2,535	1,563
Accrued other	1,071	1,191
Total accrued expenses	$ 13,102	$ 13,273

6. Commitments and Contingencies

Litigation

There have been no material changes to any of the outstanding litigation, nor is the Company a party to any new litigation, since December 31, 2019. For further information please see the notes to the consolidated financial statements included in the Company's Annual Report for the year ended December 31, 2019.

License Agreements

The Company is party to license agreements, which include contingent payments. These payments will become payable if and when certain development, regulatory and commercial milestones are achieved. As of March 31, 2020, the satisfaction and timing of the contingent payments is uncertain and not reasonably estimable.

7. Collaborations

To accelerate the development and commercialization of CRISPR/Cas9-based products in multiple therapeutic areas, the Company has formed, and intends to seek other opportunities to form, strategic alliances with collaborators who can augment its leadership in CRISPR/Cas9 therapeutic development. As of March 31, 2020 and 2019, the Company's accounts receivable and contract liabilities were primarily related to the Company's collaborations with Novartis Institutes for BioMedical Research ("Novartis") and Regeneron Pharmaceuticals, Inc. ("Regeneron").

The following table presents changes in the Company's accounts receivable and contract liabilities during the three months ended March 31, 2020 and 2019 (in thousands):

	Balance at Beginning of Period	Additions	Deductions	Balance at End of Period
Three Months Ended March 31, 2020				
Accounts receivable	$ 4,620	$ 9,765	$ (1,017)	$ 13,368
Contract liabilities:				
Deferred revenue	$ 28,810	$ -	$ (3,151)	$ 25,659

	Balance at Beginning of Period	Additions	Deductions	Balance at End of Period
Three Months Ended March 31, 2019				
Accounts receivable	$ 7,547	$ 3,591	$ (7,547)	$ 3,591
Contract liabilities:				
Deferred revenue	$ 55,932	$ 1,000	$ (7,842)	$ 49,090

During the three months ended March 31, 2020 and 2019, the Company recognized the following revenues as a result of changes in the contract liability balance (in thousands):

	Three Months Ended March 31,	
Revenue recognized in the period from:	**2020**	**2019**
Amounts included in the contract liability at the beginning of the period	$ 3,151	$ 7,842

Costs to obtain and fulfill a contract

The Company did not incur any expenses to obtain collaboration agreements and costs to fulfill those contracts do not generate or enhance resources of the Company. As such, no costs to obtain or fulfill a contract have been capitalized in any period.

Regeneron Pharmaceuticals, Inc.

In April 2016, the Company entered into a license and collaboration agreement with Regeneron (the "Regeneron Agreement"). The research collaboration term ends in April 2022, except that Regeneron may make a one-time payment of $25.0 million to extend the term for an additional two-year period. In July 2018, the Company and Regeneron finalized the form of the Co-Development and Co-Promotion ("Co/Co") agreement that will be used as the basis for each Co/Co agreement directed to a target. Simultaneously, the Company and Regeneron executed the Co/Co agreement directed to the first collaboration target, transthyretin amyloidosis ("ATTR"), for which the Company is the clinical and commercial Lead Party and Regeneron is the Participating Party. On December 13, 2019, Regeneron informed the Company that it would exercise its rights under the ATTR Co/Co agreement to decrease its share of worldwide development costs and profits from 50% to 25%, effective six months after its notice. Since December 31, 2019 there have been no material changes to the key terms of or accounting for the Regeneron Agreement or the ATTR Co/Co agreement. For further information on the terms and conditions of the Company's existing collaboration agreements please see the notes to the consolidated financial statements included in its Annual Report for the year ended December 31, 2019.

Revenue Recognition – Collaboration Revenue. Through March 31, 2020, the Company recorded a $75.0 million upfront payment under the Regeneron Agreement and $28.8 million for research and development services under the ATTR Co/Co agreement. Through March 31, 2020, the Company has recognized $78.2 million of collaboration revenue under both arrangements, including $7.9 million during the three months ended March 31, 2020 and $5.7 million during the three months ended March 31, 2019, in the condensed consolidated statements of operations and comprehensive loss. This includes $4.8 million and $2.6 million during the three months ended March 31, 2020 and 2019, respectively, representing payments due from Regeneron pursuant to the ATTR Co/Co agreement, which is accounted for under Accounting Standards Codification 808, *Collaborative Arrangements*. As of March 31, 2020, there was approximately $25.7 million of the aggregate transaction price of the Regeneron Agreement remaining to be recognized, which the Company expects to be recognized ratably through April 2022.

As of March 31, 2020 and December 31, 2019, the Company had accounts receivable of $8.4 million and $3.6 million, respectively, and deferred revenue of $25.7 million and $28.8 million, respectively, related to these arrangements.

Novartis Institutes for BioMedical Research

In December 2014, the Company entered into a strategic collaboration agreement with Novartis (the "2014 Novartis Agreement"), primarily focused on the research of new *ex vivo* CRISPR/Cas9-edited therapies using chimeric antigen receptor T ("CAR-T") cells and hematopoietic stem cells ("HSCs"). The agreement was amended in December 2018 (the "Novartis Amendment") to also include research on ocular stem cells ("OSCs"). In December 2019, per the terms of the 2014 Novartis Agreement, the research term ended, although the 2014 Novartis Agreement remains in effect, for which the Company will be eligible to receive milestone and royalty payments in the future. Since December 31, 2019, there have been no material changes to the key terms of the 2014 Novartis Agreement and the Novartis Amendment. For further information on the terms and conditions of the agreements, please see the notes to the consolidated financial statements included in the Company's Annual Report for the year ended December 31, 2019.

Revenue Recognition – Collaboration Revenue. Through March 31, 2020, excluding amounts allocated to Novartis' purchase of the Company's Class A-1 and Class A-2 Preferred Units, the Company had recorded a total of $62.4 million in cash and accounts receivable under the 2014 Novartis Agreement and the Novartis Amendment. Through March 31, 2020, the Company recognized $62.4 million of collaboration revenue, including a $5.0 million development milestone payment that was previously constrained during the three months ended March 31, 2020 and $4.7 million during the three months ended March 31, 2019, in the condensed consolidated statements of operations and comprehensive loss related to the 2014 Novartis Agreement and the Novartis Amendment. As of December 31, 2019, the aggregate transaction price had been recognized in full.

Revenue Recognition – Milestone. During the three months ended March 31, 2020, the U.S. Food and Drug Administration ("FDA") accepted the investigational new drug ("IND") application submitted by Novartis for a CRISPR/Cas9-based engineered cell therapy for the treatment of sickle cell disease. As a result of meeting this milestone, the Company recognized $5.0 million as collaboration revenue within the condensed consolidated statement of operations and comprehensive loss. No other milestones under the 2014 Novartis Agreement and the Novartis Amendment were achieved during the three months ended March 31, 2020 or 2019. The Company is eligible to receive additional downstream success-based milestones and royalties.

As of March 31, 2020 and December 31, 2019, the Company had accounts receivable of $5.0 million and $1.0 million, respectively, related to the 2014 Novartis Agreement and the Novartis Amendment. As of March 31, 2020 and December 31, 2019, the Company had no deferred revenue related to the 2014 Novartis Agreement and the Novartis Amendment.

8. Leases

In October 2014, the Company entered into an agreement to lease office and laboratory space at 130 Brookline Street (the "130 Brookline Lease") in Cambridge, Massachusetts under an operating lease agreement with a term through January 2020, with an option to extend the term of the lease for an additional five-year period. In April 2019, the Company executed an amendment to the lease to extend the term of the lease for the additional five-year period, through January 2025. Upon the execution of the original lease, the Company provided a $0.3 million security deposit. The Company has recorded this security deposit in other assets on the condensed consolidated balance sheets. In March 2020, the Company entered into a second amendment to the 130 Brookline Lease (the "Second Amendment"). The Second Amendment amends certain terms of the Company's existing lease, dated October 21, 2014, as amended on April 5, 2019. The Second Amendment extends the term of the 130 Brookline Lease by approximately six years through January 31, 2031. This extended term is included as part of the lease liability and right-of-use asset at March 31, 2020. The Second Amendment also provides an option to extend the lease for two consecutive five-year terms. The Company recognized a right-of-use asset and lease liability of approximately $7.3 million related to the Second Amendment.

In March 2020, the Company entered into an agreement to lease approximately 39,000 square feet of office and laboratory space at 281 Albany Street in Cambridge, Massachusetts under an operating lease agreement (the "281 Albany Lease"). The 281 Albany Lease is expected to commence on October 1, 2020, and the Company's obligation to pay rent will start on the date that is six months after the commencement date or the date on which the Company occupies the premises, whichever occurs earlier (the "Rent Commencement Date"). The initial term of the 281 Albany Lease is ten years following the Rent Commencement Date. The base rent under the 281 Albany Lease is $99.00 per square foot per year during the first year of the term, which is subject to scheduled annual increases up to $128.87 per square foot per year during the last year of the initial term, plus certain operating expenses and taxes. In addition, the landlord will contribute an aggregate of $4.4 million toward the cost of construction and tenant improvements for the premises. The Company has the option to extend the 281 Albany Lease for two successive five-year terms.

9. Equity-Based Compensation

In April 2016, the Company adopted the Amended and Restated 2015 Stock Option and Incentive Plan (the "2015 Plan"). The 2015 Plan provides for the grant of incentive stock options, non-qualified stock options, stock appreciation rights, restricted stock awards, restricted stock units ("RSUs") and other stock-based awards. Recipients of incentive stock options and non-qualified stock options are eligible to purchase shares of the Company's common stock at an exercise price equal to the fair value of such stock on the grant date. Stock options granted under the 2015 Plan generally vest 25% on the first anniversary of the original vesting date, with the balance vesting monthly over the remaining three years, unless they contain specific performance-based vesting provisions. The maximum term of stock options granted under the 2015 Plan is ten years.

As of March 31, 2020, there were 2,556,282 shares available for future issuance. The number of shares reserved for issuance under the 2015 Plan shall be cumulatively increased by four percent of the number of shares of stock issued and outstanding on the immediately preceding December 31 or such lesser number of shares of stock as determined by the board of directors.

Equity-based compensation expense is classified in the condensed consolidated statements of operations and comprehensive loss as follows:

	Three Months Ended March 31,	
	2020	2019
	(In thousands)	
Research and development	$ 2,160	$ 1,783
General and administrative	1,997	2,809
Total	$ 4,157	$ 4,592

Restricted Stock

Restricted stock is measured at fair value based on the quoted price of the Company's common stock.

The following table summarizes the Company's restricted stock activity for the three months ended March 31, 2020:

	Number of Shares	Weighted Average Grant Date Fair Value per Share
Unvested restricted stock as of December 31, 2019	71,875	$ 22.88
Granted	181,020	15.05
Vested	-	-
Cancelled	(4,410)	15.05
Unvested restricted stock as of March 31, 2020	248,485	$ 17.31

As of March 31, 2020, there was $2.6 million of unrecognized equity-based compensation expense related to restricted stock that is expected to vest. These costs are expected to be recognized over a weighted average remaining vesting period of 2.6 years. As of March 31, 2020, 71,875 of the unvested restricted stock outstanding are performance-based RSUs that vest upon obtaining certain scientific, financial and regulatory milestones through 2020. These performance-based RSUs are not included in computing the diluted loss per share because the performance criteria had not been met as of the end of the reporting period.

In January 2020, the Company granted 181,020 RSUs to certain employees that include a performance condition in addition to a service condition. The RSUs vest over a period of three years and are subject to accelerated vesting based on the Company's programs achieving certain development milestones before December 1, 2022. To date, the Company has not accelerated the vesting of the RSUs. The grant date fair value of the RSUs is $15.05.

Stock Options

The weighted average grant date fair value of options, estimated as of the grant date using the Black-Scholes option pricing model, was $7.96 and $8.94 per option for those options granted during the three months ended March 31, 2020 and 2019, respectively. The total intrinsic value (the amount by which the fair market value exceeded the exercise price) of stock options exercised during the three months ended March 31, 2020 and 2019 was $0.3 million and $0.1 million, respectively. Key assumptions used to apply this pricing model were as follows:

	Three Months Ended March 31,	
	2020	2019
Risk-free interest rate	1.0%	2.6%
Expected life of options	6.0 years	6.0 years
Expected volatility of underlying stock	66.7%	69.2%
Expected dividend yield	0.0%	0.0%

Risk-free Interest Rate. The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant with maturities approximately equal to the option's expected term.

Expected Dividend Yield. The expected dividend yield assumption is based on the fact that the Company has never paid cash dividends and has no present intention to pay cash dividends.

Expected Volatility. The expected volatility was derived from a blend of average historical stock volatilities of several peer companies within the Company's industry and the Company's historical volatility, both over a period equivalent to the expected term of the stock option grants.

Expected Term. The expected term represents the period that stock option awards are expected to be outstanding. For option grants that are considered to be "plain vanilla," the Company determines the expected term using the simplified method. The simplified method deems the term to be the average of the time-to-vesting and the contractual life of the options. The Company uses the simplified method because it does not have sufficient historical option exercise data to provide a reasonable basis upon which to estimate the expected term.

The Company uses the market closing price of its common stock as reported on the Nasdaq Global Select Market to determine the fair value of the shares of common stock underlying stock options. The following is a summary of stock option activity for the three months ended March 31, 2020:

	Number of Options	Weighted Average Exercise Price per Share	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
			(In years)	(In thousands)
Outstanding at December 31, 2019	5,365,971	$ 15.67		
Granted	2,103,480	13.31		
Exercised	(53,579)	6.28		
Forfeited	(172,777)	16.23		
Outstanding at March 31, 2020	7,243,095	$ 15.04	8.22	$ 5,134
Exercisable at March 31, 2020	2,847,849	$ 14.35	6.76	$ 5,134

As of March 31, 2020, there was $39.3 million of unrecognized compensation cost related to stock options that have not yet vested. These costs are expected to be recognized over a weighted average remaining vesting period of 2.8 years.

Of the unvested stock options outstanding as of March 31, 2020, 213,750 are performance-based stock options that vest upon obtaining certain scientific, financial and regulatory milestones through 2020. At March 31, 2020, 173,750 performance-based options are not included in computing the diluted loss per share because the performance criteria had not been met as of the end of the reporting period.

10. Loss Per Share

The Company calculates basic loss per share by dividing net loss for each respective period by the weighted average number of common shares outstanding for each respective period. The Company computes diluted loss per share after giving consideration to the dilutive effect of stock options and unvested restricted stock that are outstanding during the period, except where such securities would be anti-dilutive.

Basic and diluted loss per share was calculated as follows:

	Three Months Ended March 31,	
	2020	2019
	(In thousands, except per share data)	
Net loss	$ (31,806)	$ (21,940)
Weighted average shares outstanding, basic and diluted	50,491	45,234
Net loss per share, basic and diluted	$ (0.63)	$ (0.49)

The following common stock equivalents were excluded from the calculation of diluted loss per share because their inclusion would have been anti-dilutive:

	Three Months Ended March 31,	
	2020	2019
	(In thousands)	
Unvested restricted stock	248	79
Stock options	7,243	5,331
	7,491	5,410

11. Stockholders' Equity

The following tables present changes in stockholders' equity for the three months ended March 31, 2020 and 2019 (in thousands, except share data):

	Common		Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Income	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2019	50,198,044	$ 5	$ 570,493	$ 261	$ (300,878)	$ 269,881
Issuance of common stock through at-the-market offerings, net of issuance costs of $48	351,252	-	5,079	-	-	5,079
Exercise of stock options	53,579	-	336	-	-	336
Equity-based compensation	-	-	4,157	-	-	4,157
Other comprehensive gain	-	-	-	112	-	112
Net loss	-	-	-	-	(31,806)	(31,806)
Balance at March 31, 2020	50,602,875	$ 5	$ 580,065	$ 373	$ (332,684)	$ 247,759

	Common		Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Income	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2018	45,224,480	$ 5	$ 478,968	$ (28)	$ (201,025)	$ 277,920
Retroactive adjustment to beginning accumulated deficit for adoption of ASC 842	-	-	-	-	(320)	(320)
Issuance of common stock through at-the-market offerings, net of issuance costs of $120	223,818	-	3,639	-	-	3,639
Exercise of stock options	30,800	-	360	-	-	360
Equity-based compensation	-	-	4,592	-	-	4,592
Other comprehensive gain	-	-	-	87	-	87
Net loss	-	-	-	-	(21,940)	(21,940)
Balance at March 31, 2019	45,479,098	$ 5	$ 487,559	$ 59	$ (223,285)	$ 264,338

At-the-Market Offering Programs

On October 12, 2018, the Company filed a Registration Statement on Form S-3 (the "2018 Shelf") with the SEC in relation to the registration of common stock, preferred stock, warrants and units of any combination thereof for the purposes of selling, from time to time, its common stock, convertible securities or other equity securities in one or more offerings. The Company also simultaneously entered into an Open Market Sale Agreement (the "2018 Sales Agreement") with Jefferies LLC, (the "Sales Agent"), to provide for the offering, issuance and sale by the Company of up to an aggregate amount of $100.0 million of its common stock from time to time in "at-the-market" offerings under the 2018 Shelf and subject to the limitations thereof. The Company paid to the Sales Agent cash commissions of 3.0% of the gross proceeds of sales of common stock under the 2018 Sales Agreement. In November 2018, the Company issued 1,659,300 shares of its common stock at $18.00 per share in accordance with the 2018 Sales Agreement for net proceeds of $28.5 million, after payment of cash commissions to the Sales Agent and approximately $0.4 million related to legal, accounting and other fees in connection with the sales. During the year ended December 31, 2019, the Company issued an additional 4,231,348 shares of its common stock, in a series of sales, at an average price of $16.57 per share, in accordance with the 2018 Sales Agreement, for aggregate net proceeds of $67.8 million, after payment of cash commissions to the Sales Agent and approximately $0.2 million related to legal, accounting and other fees in connection with the sales. All shares related to the 2018 Sales Agreement had been sold as of December 31, 2019.

On August 23, 2019, the Company filed a Registration Statement on Form S-3, as amended (the "2019 Shelf") with the SEC in relation to the registration of common stock, preferred stock, warrants and units of any combination thereof. The Company also simultaneously entered into an Open Market Sale Agreement (the "2019 Sales Agreement") with the Sales Agent, to provide for the offering, issuance and sale by the Company of up to an aggregate amount of $150.0 million of its common stock from time to time in "at-the-market" offerings under the 2019 Shelf and subject to the limitations thereof. The Company agreed to pay to the Sales Agent cash commissions of 3.0% of the gross proceeds of sales of common stock under the 2019 Sales Agreement. During the year ended December 31, 2019, the Company issued 287,231 shares of its common stock, in a series of sales, at an average price of $16.48 per share, in accordance with the 2019 Sales Agreement for aggregate net proceeds of $4.4 million, after payment of cash commissions to the Sales Agent and approximately $0.2 million related to legal, accounting and other fees in connection with the sales. During the three months ended March 31, 2020, the Company issued 351,252 shares of its common stock in a series of sales at an average price of $15.05 per share in accordance with the 2019 Sales Agreement, for aggregate net proceeds of $5.1 million after payment of cash commissions to the Sales Agent and approximately $0.1 million related to legal, accounting and other fees in connection with the sales. As of March 31, 2020, $0.5 million of these proceeds were recorded as a current asset on the Company's condensed consolidated balance sheet, representing offerings with trade dates in March 2020 that were settled by April 2, 2020.

As of March 31, 2020, $140.0 million in shares of common stock remain eligible for sale under the 2019 Sales Agreement.

12. Related Party Transactions

Research Material Supplier

In the ordinary course of business, the Company may purchase materials or supplies from entities that are associated with a party that meets the criteria of a related party of the Company. These transactions are reviewed quarterly and to date have not been material to the Company's condensed consolidated financial statements.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Forward-looking Information

This Quarterly Report on Form 10-Q contains forward-looking statements which are made pursuant to the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These statements may be identified by such forward-looking terminology as "may," "should," "expects," "intends," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue" or the negative of these terms or other comparable terminology. Our forward-looking statements are based on a series of expectations, assumptions, estimates and projections about our company, are not guarantees of future results or performance and involve substantial risks and uncertainty. We may not actually achieve the plans, intentions or expectations disclosed in these forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in these forward-looking statements. Our business and our forward-looking statements involve substantial known and unknown risks and uncertainties, including the risks and uncertainties inherent in our statements regarding:

- *the anticipated timing of our submission of investigational new drug applications or equivalent regulatory filings and initiation of clinical studies for NTLA-2001, our program for the treatment of transthyretin amyloidosis;*
- *the anticipated timing of preclinical studies, manufacturing activities and our investigational new drug application or equivalent regulatory filing for NTLA-5001, our program for the treatment of acute myeloid leukemia;*
- *the anticipated timing of preclinical studies, manufacturing activities and our investigational new drug application or equivalent regulatory filing for NTLA-2002, our program for the treatment of hereditary angioedema;*
- *our ability to use a modular platform capability or other strategy to efficiently discover and develop product candidates, including by applying learnings from one program to other programs;*
- *our ability to research, develop or maintain a pipeline of product candidates;*
- *our ability to manufacture or obtain material for our preclinical and clinical studies, and our product candidates;*
- *our ability to advance any product candidates into, and successfully complete, clinical studies, including clinical studies necessary for regulatory approval and commercialization, and to demonstrate to the regulators that the product candidates are safe, effective, pure and potent and that their benefits outweigh known and potential risks for the intended patient population;*
- *our ability to advance our genome editing and therapeutic delivery capabilities;*
- *the scope of protection we are able to develop, establish and maintain for intellectual property rights, including patents and license rights, covering our product candidates and technology;*
- *our ability to operate, including commercializing products, without infringing or breaching the proprietary or contractual rights of others;*
- *the issuance or enforcement of, and compliance with, regulatory requirements and guidance regarding preclinical and clinical studies relevant to genome editing and our product candidates;*
- *the pricing and reimbursement of our product candidates, if approved;*
- *estimates of our expenses, future revenues, capital requirements and our needs for additional financing;*
- *the potential benefits of strategic collaboration agreements and our ability to enter into strategic arrangements;*
- *our ability to maintain and establish collaborations with third parties under favorable terms;*
- *our ability to acquire and maintain relevant intellectual property licenses and rights, and the scope and terms of such rights;*
- *our plans to negotiate, and ability to agree to terms with Caribou in accordance with the September 2019 interim award issued by the arbitration panel in our arbitration against Caribou Biosciences, Inc. (the "Caribou Arbitration"), including the scope of such arrangement and the timing and amount of payment under any such arrangement as well as the potential to initiate additional arbitration or legal proceedings if negotiations are not successful;*

- *the potential implications and impact the interim award in the Caribou Arbitration may have on any other intellectual property rights, as well as Caribou's potential to compete with us in the field of human therapeutics;*
- *developments relating to our licensors, licensees, third-parties from which we derive rights, collaborators, competitors and our industry;*
- *the effect of the coronavirus disease 2019 ("COVID-19") pandemic, including mitigation efforts and economic effects, on any of the foregoing or other aspects of our business operations; and*
- *other risks and uncertainties, including those listed under the caption "Risk Factors."*

All of our express or implied forward-looking statements are as of the date of this Quarterly Report on Form 10-Q only. In each case, actual results may differ materially from such forward-looking information. We can give no assurance that such expectations or forward-looking statements will prove to be correct. An occurrence of or any material adverse change in one or more of the risk factors or risks and uncertainties referred to in this Quarterly Report on Form 10-Q or included in our other public disclosures or our other periodic reports or other documents or filings filed with or furnished to the Securities and Exchange Commission (the "SEC") could materially and adversely affect our business, prospects, financial condition and results of operations. Except as required by law, we do not undertake or plan to update or revise any such forward-looking statements to reflect actual results, changes in plans, assumptions, estimates or projections or other circumstances affecting such forward-looking statements occurring after the date of this Quarterly Report on Form 10-Q, even if such results, changes or circumstances make it clear that any forward-looking information will not be realized. Any public statements or disclosures by us following this Quarterly Report on Form 10-Q that modify or impact any of the forward-looking statements contained in this Quarterly Report on Form 10-Q will be deemed to modify or supersede such statements in this Quarterly Report on Form 10-Q.

Management Overview

Intellia Therapeutics, Inc. ("we," "us," "our," "Intellia," or the "Company") is a leading genome editing company focused on developing curative therapeutics utilizing a biological tool known as CRISPR/Cas9, which stands for Clustered, Regularly Interspaced Short Palindromic Repeats ("CRISPR")/CRISPR associated 9 ("Cas9"). This is a technology for genome editing, the process of altering selected sequences of genomic deoxyribonucleic acid ("DNA"). We believe that CRISPR/Cas9 technology has the potential to transform medicine by editing disease-associated genes with a single treatment course, and that it also can be used to create novel engineered cell therapies that can replace a patient's diseased cells or effectively target various cancers and autoimmune diseases. We are leveraging our leading scientific expertise, clinical development experience and intellectual property ("IP") position to unlock a broad set of therapeutic applications for CRISPR/Cas9 genome editing and to develop a potential new class of therapeutic products.

Our management's discussion and analysis of our financial condition and results of operations are based upon our unaudited condensed consolidated financial statements included in this Quarterly Report on Form 10-Q, which have been prepared by us in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") for interim periods and with Regulation S-X, promulgated under the Securities Exchange Act of 1934, as amended. This discussion and analysis should be read in conjunction with these unaudited condensed consolidated financial statements and the notes thereto included elsewhere in this Quarterly Report on Form 10-Q as well as in conjunction with the audited financial statements and notes thereto included in our Annual Report on Form 10-K ("Annual Report") for the year ended December 31, 2019.

Our mission is to build a company to develop curative genome editing treatments that can positively transform the lives of people living with severe and life-threatening disease. We believe we can deliver on our mission and provide long-term benefits for all of our stakeholders by focusing on four key elements:

- Develop curative CRISPR/Cas9-based medicines;
- Advance our science to help more patients;
- Foster an environment that is the best place to make therapies; and
- Focus on long-term sustainability.

Our strategy is to build a full-spectrum genome editing company, by leveraging our CRISPR/Cas9 platform across two areas: *in vivo* applications, in which CRISPR/Cas9 is the therapy, delivered to target cells within the body; and *ex vivo* applications, in which CRISPR/Cas9 creates the therapy of engineered human cells. All of our revenue to date has been collaboration revenue. Since our inception and through March 31, 2020, we have raised an aggregate of approximately $658.7 million to fund our operations, of which $155.5 million was through our collaboration agreements, $170.5 million was from our initial public offering and concurrent private placements, $141.0 million was from a follow-on offering, $106.7 million was from at-the-market offerings and $85.0 million was from the sale of convertible preferred stock.

The breadth of our CRISPR/Cas9 platform and delivery technology allows us to pursue a multitude of therapeutic targets/clinical indications. Specifically, we can target diseases that have the potential to be addressed by directly editing specific genes (i.e., gene knockout, repair, or insertion) as well as diseases that may be targeted by genetically engineered cell therapies. The successful treatment of these disorders may require various types of genome edits, CRISPR/Cas9 elements and DNA templates. We have assembled multiple *in vivo* and engineered cell therapy capabilities into a pipeline that reflects our full-spectrum approach and leverages the modularity inherent in our platform.

Our diversified pipeline includes *in vivo* development programs targeting genetic diseases, including transthyretin amyloidosis ("ATTR"), which we are co-developing with Regeneron Pharmaceuticals, Inc. ("Regeneron"), and hereditary angioedema ("HAE"). Our pipeline also includes *ex vivo* programs consisting of two separate efforts: (i) a set of proprietary programs focused on engineered cell therapies to treat various cancers and autoimmune diseases including our lead *ex vivo* program to target Wilms' Tumor 1 ("WT1") for acute myeloid leukemia ("AML"); and (ii) partnered programs developed in collaboration with Novartis Institutes for BioMedical Research, Inc. ("Novartis"), focused on chimeric antigen receptor ("CAR") T ("CAR-T") cells, hematopoietic stem cells ("HSCs"), the stem cells from which all of the various types of blood cells originate, and stem cells in the eye, or ocular stem cells ("OSCs").

Our Pipeline

Our diversified pipeline includes *in vivo* and *ex vivo* programs. Our *in vivo* programs focus on treating patients that have significant unmet medical needs due to diseases attributable to genes expressed in the liver – ATTR (which we are co-developing with Regeneron) and HAE. Delivery plays a key role in our *in vivo* therapeutic approach. We have shown in animal models that our proprietary lipid nanoparticle ("LNP") delivery technology, which encapsulates the therapeutic Cas9 messenger RNA ("mRNA") and guide RNA ("gRNA") into LNPs, can systemically deliver these therapeutic components to the liver.

For *ex vivo* applications, our wholly owned programs focus on next-generation, engineered cell therapy solutions that utilize antigen-specific T cell receptors ("TCRs"). The cells to be modified *ex vivo* can come from the individual patient (autologous source) or from another individual (allogeneic source). Our goal for the *ex vivo* pipeline is to move from autologous to allogeneic therapies, and from liquid to solid tumors.

We believe our full spectrum approach to *in vivo* and *ex vivo* programs positions us to build a pipeline across a wide range of indications.

In Vivo *Programs*

Our selection criteria include identifying diseases that originate in the liver; have well-defined mutations that can be addressed by a single knockout, repair or insertion approach; have readily measurable therapeutic endpoints with observable clinical responses; and for which effective treatments are absent, limited or unduly burdensome. Our initial *in vivo* indications target genetic liver diseases, including ATTR and HAE. Our current efforts on *in vivo* delivery focus on the use of LNPs for delivery of the CRISPR/Cas9 complex to the liver.

Transthyretin Amyloidosis – ("ATTR")

ATTR is a progressive and fatal disorder resulting from deposition of insoluble amyloid fibrils into multiple organs and tissues leading to systemic failure. Blood-borne transthyretin ("TTR") protein is produced by hepatocytes and normally circulates as a soluble homotetramer that facilitates transport of vitamin A, via retinol binding protein, as well as the thyroid hormone, thyroxine. Mutations in the *TTR* gene lead to the production of TTR proteins that are destabilized in their tetramer form. These tetramers more readily dissociate into the monomeric form, and thence to an aggregative form that results in amyloid deposits in tissues. These deposits cause damage in those tissues, resulting in a disorder known as hereditary TTR amyloidosis ("hATTR"). Over 120 different genetic mutations are currently known to cause hATTR.

Deposits of TTR amyloid in the heart, nerves and/or other tissues can lead to diverse disease manifestations, including two main hereditary forms – hATTR with polyneuropathy ("hATTR-PN"), and hATTR with cardiomyopathy ("hATTR-CM"). Typical onset of disease symptoms is during adulthood and can be fatal within 2 to 15 years. Estimates suggest that approximately 50,000 patients suffer from hATTR worldwide.

In addition to the hereditary forms described above, ATTR can also develop spontaneously in the absence of any *TTR* gene mutation. This wild-type ATTR ("wtATTR") is increasingly being recognized as a significant and often undiagnosed cause of heart failure in the elderly and is the subject of active investigation. Recent estimates suggest that, globally, between 200,000 and 500,000 people may suffer from wtATTR with cardiomyopathy ("wtATTR-CM").

In non-human primate ("NHP") studies, we have demonstrated our ability to reduce circulating TTR protein to estimated therapeutically relevant levels after a single systemic administration of LNPs containing our CRISPR/Cas9 complex. In December 2019, we completed a year-long durability study of our lead LNP formulation, maintaining an average reduction of more than 95% of serum TTR protein after a single dose in NHPs. The data from our various NHP studies has also demonstrated the transient nature of our proprietary modular LNP delivery system, which was rapidly cleared from circulation, with all CRISPR/Cas9 complex undetectable in blood and liver within ten days of administration. Our lead candidate, NTLA-2001, applies an *in vivo* liver knockout approach for the treatment of ATTR. We have manufactured clinical-scale materials for a Phase 1 study of NTLA-2001 and remain on track to submit an investigational new drug application ("IND") or IND-equivalent for this program in mid-2020. Subject to the impact of COVID-19, we plan to dose the first patient in the second half of 2020. NTLA-2001 is part of a Co-Development and Co-Promotion ("Co/Co") agreement directed to the first collaboration target, ATTR, for which we are the clinical and commercial Lead Party and Regeneron is the Participating Party. On December 13, 2019, Regeneron informed us that it would exercise its right under the ATTR Co/Co agreement to decrease its share of worldwide development costs and profits from 50% to 25%, effective six months after its notice. Pursuant to the ATTR Co/Co agreement, Regeneron funded approximately 50% of the program's development costs through 2019. Starting June 2020 and thereafter, Regeneron will share approximately 25% of worldwide development costs and commercial profits for the ATTR program.

Hereditary Angioedema – ("HAE")

HAE is a rare genetic disorder characterized by recurrent, painful and unpredictable episodes of severe swelling. The most common areas of the body to develop swelling are the limbs, face, intestinal tract and airway. Minor trauma or stress may trigger an attack but swelling often occurs without a known trigger. Episodes involving the intestinal tract cause severe abdominal pain, nausea and vomiting. Swelling in the airway can restrict breathing and lead to life-threatening obstruction of the airway. The disease is caused by increased levels of bradykinin, a protein which leads to swelling. Most patients with HAE have a deficiency of C1 esterase inhibitor ("C1-INH") protein, which normally prevents the unregulated release and buildup of bradykinin. HAE is estimated to affect 1 in 50,000 people, with an estimated 11,000 to 21,500 diagnosed HAE patients in the U.S. and Europe.

Currently there are multiple therapies approved to treat HAE, including acute and prophylactic approaches. Acute treatments are used to treat patients who are experiencing an attack. Prophylactic treatments are used to reduce the number of attacks that a patient may experience. Prophylactic treatments have proven to be effective in reducing the number of attacks for most patients, though some patients still experience breakthrough attacks and such treatment options require regular injections which can be associated with significant treatment burden and impact on quality of life.

Using our modular LNP delivery system, we aim to knock out the *prekallikrein B1 ("KLKB1")* gene with a single course of treatment to reduce plasma kallikrein activity to prevent excess bradykinin production leading to HAE attacks. We believe *KLKB1* knockout to be safe, as humans with prekallikrein deficiency appear to have no known health effects. In addition, inhibition of kallikrein activity has proven to be a clinically effective approach as a prophylactic treatment for HAE.

On May 7, 2020, we announced a development candidate for the treatment of HAE, NTLA-2002. As part of an ongoing durability study of our lead LNP formulation in support of NTLA-2002, we have now demonstrated six months of sustained therapeutically relevant reduction of serum kallikrein levels and activity following a single dose in NHP's. We expect to submit an IND or IND-equivalent for NTLA-2002 in the second half of 2021. NTLA-2002 is subject to an option by Regeneron to enter into a Co/Co agreement, which must be exercised within a limited time period after development candidate selection. We will be the lead party if the option is exercised.

Ex Vivo *Programs*

We are independently researching and developing proprietary engineered cell therapies to treat various oncological and autoimmune diseases, for example TCR-engineered T cells for immuno-oncology applications and engineered regulatory T cells for autoimmune disorders. Our diverse product strategy includes multiple elements. In particular:

- We are exploring non-CAR-T cellular approaches that use immune cells, including T cells expressing recombinant TCRs, for oncology indications. For example, in our existing collaboration with IRCCS Ospedale San Raffaele ("OSR"), a leading European research-university hospital, we have identified optimized TCRs that recognize a WT1 target that could be used to treat a variety of cancers.
- We seek to develop allogeneic cellular therapies, which are those derived from unmatched donors and modified outside of the human body to allow them to be administered to an unrelated patient.
- We are also exploring methods to apply CRISPR/Cas9 editing to CD4 immune cells to induce a non-reverting regulatory T cell phenotype, to create therapies that address autoimmune diseases.

In addition, our partner Novartis is developing therapies using CAR-T cells for oncology indications, as well as HSC and OSC-based therapies.

Acute Myeloid Leukemia ("AML")

AML includes a heterogenous group of blood cancers arising from the malignant expansion of hematopoietic cells of the myeloid lineage. AML is associated with weakness, fatigue and bleeding resulting from the depletion of healthy myeloid cells, and is typically rapidly progressive and fatal without immediate treatment. AML is an aggressive and hard-to-treat cancer, resulting in less than 30% of patients living more than five years after diagnosis. AML is the most common acute leukemia in adults and is associated with the largest number of annual deaths from leukemia in the U.S. It is estimated that there have been nearly 11,000 deaths due to AML, as well as over 21,000 new AML cases in the U.S. in 2019. While AML can occur at any age, the prevalence of the disease increases with age, resulting in a median age at diagnosis of 67 years.

Over the past several years, new treatments have emerged for AML with different mechanisms of action. While these treatments have led to improvements in response rates and in some cases increased overall survival, the outcomes demonstrated thus far have been incremental in nature and long-term outcomes in AML continue to be extremely poor.

We have nominated NTLA-5001 as our first engineered T cell therapy development candidate for the treatment of AML, utilizing our TCR-directed approach to target the WT1 intracellular antigen. Our WT1-directed TCR T-cell therapy aims to develop a broadly applicable treatment for AML, regardless of mutational subtypes of a patient's leukemia. This approach employs CRISPR/Cas9 complexes to knock out and replace the endogenous TCR with a natural, high affinity therapeutic TCR. The resulting cells are engineered to be capable of specific and potent killing of AML blasts without bone marrow cell toxicity. In February 2020, we presented data demonstrating that the selection of a natural, high-affinity TCR, in combination with our CRISPR-enabled engineering and targeted insertion, results in an engineered T cell capable of specific and potent killing of primary AML blasts. Importantly, our studies showed that CRISPR-enabled engineering overcomes key challenges of traditional TCR approaches, such as mispairing between therapeutic and endogenous TCR, therefore creating a more homogenous T cell product. The cells engineered with our lead WT1 TCR also exhibited no detectable reactivity to bone marrow cells, which express WT1 at low levels. We continue to advance IND-enabling activities, including process development to support clinical T cell manufacturing. We are on track to submit an IND or IND-equivalent for NTLA-5001 in the first half of 2021.

Research Collaboration with Novartis

In December 2019, the research term under our collaboration agreement with Novartis ended, although the 2014 Novartis Agreement remains in effect. Accordingly, Novartis has selected various CAR-T cell, HSC and OSC targets for continued development, for which we will be eligible to receive milestone and royalty payments in the future. Further, we are eligible to earn up to $230.3 million in development, regulatory and sales-based milestone payments and mid-single-digit royalties, in each case, on a per-product basis for the products developed by Novartis, subject to certain target-based limitations. During the three months ended March 31, 2020, the U.S. Food and Drug Administration ("FDA") accepted the IND application submitted by Novartis, for a CRISPR/Cas9-based engineered cell therapy for the treatment of sickle cell disease. As a result of meeting this milestone, we recognized a $5.0 million milestone payment that was previously constrained as collaboration revenue within the condensed consolidated statement of operations and comprehensive loss. For more information regarding our collaboration with Novartis, see the section below entitled "Collaborations - Novartis."

Other Research Programs

We are pursuing a number of *in vivo* and *ex vivo* genome editing programs. Within our *in vivo* research efforts, we continue to work on programs such as primary hyperoxaluria Type 1, alpha-1 antitrypsin deficiency and, in collaboration with Regeneron, hemophilia B, which leverage our capabilities to knockout, insert and make consecutive edits to the genome. We are also investigating delivery strategies that target tissues outside of the liver.

Within our *ex vivo* research efforts, we are developing engineered cell therapies to treat a range of hematological and solid tumors. We are pursuing modalities, such as TCR, with broad potential in multiple indications. Further, we continue to advance efforts to move from autologous to allogeneic and from liquid to solid tumors. Our researchers are developing and improving cell-engineering manufacturing and delivery processes that, we believe, are designed to allow us to deliver T cell therapies with high levels of editing, achieve robust levels of expansion, ensure desirable memory phenotypes, improve function and reduce translocations. These platform advances will support NTLA-5001 and other ongoing research programs.

Collaborations

To accelerate the development and commercialization of CRISPR/Cas9-based products in multiple therapeutic areas, we have formed, and may seek other opportunities to form, strategic alliances with collaborators who can augment our leadership in CRISPR/Cas9 therapeutic development.

Regeneron

As described in Note 7, "Collaborations—Regeneron Pharmaceuticals, Inc.," in April 2016, we entered into a license and collaboration agreement with Regeneron (the "Regeneron Agreement"). The Regeneron Agreement has two principal components: (i) a product development component under which the parties will research, develop and commercialize CRISPR/Cas-based therapeutic products primarily focused on genome editing in the liver; and (ii) a technology collaboration component, pursuant to which the parties will engage in research and development activities aimed at discovering and developing novel technologies and improvements to CRISPR/Cas technology to enhance our genome editing platform. Under the Regeneron Agreement, we also may access the Regeneron Genetics Center and proprietary mouse models to be provided by Regeneron for a limited number of our liver programs.

Through March 31, 2020, we have recorded a $75.0 million upfront payment under the Regeneron Agreement and $28.8 million for research and development services under the ATTR Co/Co agreement. Through March 31, 2020, we have recognized $78.2 million of collaboration revenue under both arrangements, including $7.9 million and $5.7 million during the three months ended March 31, 2020 and 2019, respectively. This includes $4.8 million and $2.6 million during the three months ended March 31, 2020 and 2019, respectively, representing payments due from Regeneron pursuant to the ATTR Co/Co agreement, which is accounted for under Accounting Standards Codification 808, *Collaborative Arrangements*. As of March 31, 2020 and December 31, 2019, we had accounts receivable of $8.4 million and $3.6 million, respectively, and deferred revenue of $25.7 million and $28.8 million, respectively, related to these arrangements.

Novartis

As described in Note 7, "Collaborations—Novartis Institutes for BioMedical Research, Inc.," in December 2014, we entered into a strategic collaboration agreement with Novartis (the "2014 Novartis Agreement"), primarily focused on the development of new *ex vivo* CRISPR/Cas9-edited therapies using CAR-T cells and HSCs. The agreement was amended in December 2018 (the "Novartis Amendment") to also include research on OSCs.

Through March 31, 2020, excluding amounts allocated to Novartis' purchase of the Company's Class A-1 and Class A-2 Preferred Units, we had recorded a total of $62.4 million in cash and accounts receivable under the 2014 Novartis Agreement and the Novartis Amendment. Through March 31, 2020, we have recognized $62.4 million of collaboration revenue, including $5.0 million related to a development milestone that was previously constrained in the three months ended March 31, 2020 and $4.7 million in the three months ended March 31, 2019. As of March 31, 2020 and December 31, 2019, we had accounts receivable of $5.0 million and $1.0 million, respectively, related to the 2014 Novartis Agreement and the Novartis Amendment. As of March 31, 2020 and December 31, 2019, we had no deferred revenue related to the 2014 Novartis Agreement and the Novartis Amendment.

Financial Overview

Collaboration Revenue

Our revenue consists of collaboration revenue, including amounts recognized related to upfront technology access payments for licenses, technology access fees, research funding and milestone payments earned under our collaboration and license agreements with Novartis and Regeneron.

Research and Development

Research and development expenses consist of expenses incurred in performing research and development activities, including compensation and benefits, which includes equity-based compensation, for full-time research and development employees, allocated facility-related expenses, overhead expenses, clinical manufacturing costs, license and milestone fees, contract research services and other related costs.

General and Administrative

General and administrative expenses consist primarily of compensation and benefits, including equity-based compensation, for our executive, finance, legal, business development and support functions. Also included in general and administrative expenses are allocated facility-related costs not otherwise included in research and development expenses, travel expenses and professional fees for auditing, tax and legal services, including IP-related legal services, and other consulting fees and expenses.

Interest Income

Interest income is income earned on our cash, cash equivalents and marketable securities.

Results of Operations

The following discussion of the financial condition and results of operations should be read in conjunction with the accompanying condensed consolidated financial statements and the related footnotes thereto.

Comparison of Three Months Ended March 31, 2020 and 2019

The following table summarizes our results of operations for the three months ended March 31, 2020 and 2019:

	Three Months Ended March 31,		Period-to-Period Change
	2020	2019	
Collaboration revenue	$ 12,916	$ 10,433	$ 2,483
Operating expenses:			
Research and development	34,650	23,709	10,941
General and administrative	11,314	10,533	781
Total operating expenses	45,964	34,242	11,722
Operating loss	(33,048)	(23,809)	(9,239)
Interest income	1,242	1,869	(627)
Net loss	$ (31,806)	$ (21,940)	$ (9,866)

Collaboration Revenue

Collaboration revenue increased $2.5 million to $12.9 million during the three months ended March 31, 2020, as compared to $10.4 million during the three months ended March 31, 2019. The increase in collaboration revenue during the three months ended March 31, 2020 is primarily caused by a $2.2 million increase in research and development services related to our ATTR program with Regeneron, increasing to $4.8 million during the three months ended March 31, 2020 as compared to $2.6 million during the three months ended March 31, 2019, as well as $5.0 million from a milestone triggered by the Novartis IND submission earned during the three months ended March 31, 2020 as compared to $4.7 million related to the research portion of the Novartis collaboration during the three months ended March 31, 2019.

During the three months ended March 31, 2020 and 2019, collaboration revenue consisted of amounts recognized from deferred revenue related to an upfront payment received and amounts for research and development services under the Regeneron Agreement as well as amounts recognized from deferred revenue related to upfront technology access payments for licenses, technology access fees, research funding and, in 2020, milestone payments under the 2014 Novartis Agreement and Novartis Amendment.

Research and Development

Research and development expenses increased by approximately $10.9 million to $34.7 million during the three months ended March 31, 2020, as compared to $23.7 million during the three months ended March 31, 2019.

The following table summarizes our research and development expenses for the three months ended March 31, 2020 and 2019, together with the changes in those items in dollars (in thousands) and the respective percentages of change:

	Three Months Ended March 31,		Period-to-Period Change	Percent Change
	2020	2019		
Pipeline and platform development expenses	$ 15,799	$ 9,793	$ 6,006	61%
Employee related expenses	10,661	7,561	3,100	41%
Allocated facility-related expenses	4,978	3,803	1,175	31%
Stock-based compensation expense	2,160	1,783	377	21%
Other expenses	1,052	769	283	37%
Total research and development expenses	$ 34,650	$ 23,709	$ 10,941	46%

The increase in research and development expenses for the three months ended March 31, 2020 compared to the three months ended March 31, 2019 was primarily attributable to:

- approximately $6.0 million in increased pipeline and platform development expenses driven by increased manufacturing and related costs for NTLA-2001 and NTLA-5001;
- approximately $3.1 million in employee related expenses driven by an increase in the size of our workforce due to the advancement of our programs;

- approximately $1.2 million in increased facility related expenses primarily related to rent, depreciation and technology expense allocated to research and development; and
- approximately $0.4 million in increased stock-based compensation driven by our larger workforce.

Through 2020, we expect research and development expenses to increase as we continue to grow our development team and advance our ATTR, AML and HAE programs towards clinical development.

General and Administrative

General and administrative expenses increased by approximately $0.8 million to $11.3 million during the three months ended March 31, 2020, compared to $10.5 million during the three months ended March 31, 2019. This increase was primarily related to a $0.4 million increase in legal fees associated with intellectual property related fees due to an increase in patent activity and a $0.2 million increase related to technology expenses allocated to general and administrative costs.

Interest Income

Interest income decreased by approximately $0.6 million to $1.2 million during the three months ended March 31, 2020 as compared to $1.9 million during the three months ended March 31, 2019. This decrease was due to a decline in investment income due to a lower investment balance and a general decrease in interest rates.

Liquidity and Capital Resources

Since our inception through March 31, 2020, we have raised an aggregate of $658.7 million to fund our operations, of which $155.5 million was through our collaboration agreements, $170.5 million was from our initial public offering and concurrent private placements, $141.0 million was from a follow-on public offering, $106.7 million was from at-the-market offerings and $85.0 million was from the sale of convertible preferred stock.

As of March 31, 2020, we had $250.3 million in cash, cash equivalents and marketable securities.

We are entitled to receive research payments under our collaboration with Novartis and are also eligible to earn a significant amount of milestone payments and royalties, in each case, on a per-product basis under our collaboration with Novartis and on a per-target basis under our collaboration with Regeneron. Our ability to earn these milestone payments and the timing of achieving these milestones is dependent upon the outcome of our research and development activities and is uncertain at this time. Our rights to payments under our collaboration agreements are our only committed external source of funds.

At-the-Market Offering Programs

On October 12, 2018, we filed a Shelf Registration Statement on Form S-3 (the “2018 Shelf”) with the SEC in relation to the registration of common stock, preferred stock, warrants and units of any combination thereof for the purposes of selling, from time to time, our common stock, convertible securities or other equity securities in one or more offerings. We also simultaneously entered into an Open Market Sale Agreement (the “2018 Sales Agreement”) with Jefferies LLC (the “Sales Agent”), to provide for the offering, issuance and sale of up to an aggregate amount of $100.0 million of our common stock from time to time in “at-the-market” offerings under the 2018 Shelf and subject to the limitations thereof. We have paid the Sales Agent cash commissions of 3.0% of the gross proceeds of sales of common stock under the 2018 Sales Agreement. In November 2018, we issued 1,659,300 shares of our common stock at $18.00 per share in accordance with the 2018 Sales Agreement for aggregate net proceeds of $28.5 million, after payment of cash commissions to the Sales Agent and approximately $0.4 million related to legal, accounting and other fees in connection with the sale. During the twelve months ended December 31, 2019, we issued an additional 4,231,348 shares of our common stock, in a series of sales, at an average price of $16.57 per share, in accordance with the 2018 Sales Agreement, for aggregate net proceeds of $67.8 million, after payment of cash commissions to the Sales Agent and approximately $0.2 million related to legal, accounting and other fees in connection with the sales. All shares related to the 2018 Sales Agreement had been sold as of December 31, 2019.

On August 23, 2019, we filed a Registration Statement on Form S-3, as amended (the "2019 Shelf") with the SEC in relation to the registration of common stock, preferred stock, warrants and units of any combination thereof. We also simultaneously entered into an Open Market Sale Agreement (the "2019 Sales Agreement") with the Sales Agent, to provide for the offering, issuance and sale by us of up to an aggregate amount of $150.0 million of our common stock from time to time in "at-the-market" offerings under the 2019 Shelf and subject to the limitations thereof. We agreed to pay to the Sales Agent cash commissions of 3.0% of the gross proceeds of sales of common stock under the 2019 Sales Agreement. During the year ended December 31, 2019, we issued 287,231 shares of our common stock, in a series of sales, at an average price of $16.48 per share, in accordance with the 2019 Sales Agreement, for aggregate net proceeds of $4.4 million, after payment of cash commissions to the Sales Agent and approximately $0.2 million related to legal, accounting and other fees in connection with the sales. During the three months ended March 31, 2020, we issued 351,252 shares of our common stock in a series of sales at an average price of $15.05 per share in accordance with the 2019 Sales Agreement, for aggregate net proceeds of $5.1 million, after payment of cash commissions to the Sales Agent and approximately $0.1 million related to legal, accounting and other fees in connection with the sales. As of March 31, 2020, $0.5 million of these proceeds were recorded as a current asset on our condensed consolidated balance sheet, representing offerings with trade dates in March 2020 that were settled in April 2020.

As of March 31, 2020, $140.0 million in shares of common stock remain eligible for sale under the 2019 Sales Agreement.

Funding Requirements

Our primary uses of capital are, and we expect will continue to be, research and development contracted services, compensation and related expenses, laboratory and office facilities, research supplies, legal and regulatory expenses, patent prosecution filing and maintenance costs for our licensed IP and general overhead costs. During 2020, we expect our expenses to increase compared to prior periods in connection with our ongoing activities, as we continue to grow our research and development team and begin clinical development.

Because our lead programs are still in preclinical development and the outcome of these efforts is uncertain, we cannot estimate the actual amounts necessary to successfully complete the development and commercialization of any future product candidates or whether, or when, we may achieve profitability. Until such time as we can generate substantial product revenues, if ever, we expect to finance our ongoing cash needs through equity financings and collaboration arrangements. We receive cost reimbursements from Regeneron for the ATTR program. Additionally, we are eligible to earn milestone payments and royalties, in each case, on a per-product basis under our collaboration with Novartis and on a per-target basis under our collaboration with Regeneron, subject to the provisions of our agreements with each of them. Except for these sources of funding, we will not have any committed external source of liquidity. To the extent that we raise additional capital through the future sale of equity, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our existing stockholders. If we raise additional funds through collaboration arrangements in the future, we may have to relinquish valuable rights to our technologies, future revenue streams 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 financings when needed, we may be required to delay, limit, reduce or terminate our 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.

Outlook

Based on our research and development plans and our expectations related to the progress of our programs, we expect that our cash, cash equivalents and marketable securities as of March 31, 2020, as well as research and cost reimbursement funding from Regeneron, will enable us to fund our ongoing operating expenses and capital expenditure requirements at least to the end of 2021, excluding any potential milestone payments or extension fees that could be earned and distributed under the collaboration agreements with Regeneron and Novartis or any strategic use of capital not currently in the base case planning assumptions. We have based this estimate on current assumptions that may prove to be wrong, and we could use our capital resources sooner than we expect.

Our ability to generate revenue and achieve profitability depends significantly on our success in many areas, including: developing our delivery technologies and our CRISPR/Cas9 technology platform; selecting appropriate product candidates to develop; completing research and preclinical and clinical development of selected product candidates; obtaining regulatory approvals and marketing authorizations for product candidates for which we complete clinical trials; developing a sustainable and scalable manufacturing process for product candidates; launching and commercializing product candidates for which we obtain regulatory approvals and marketing authorizations, either directly or with a collaborator or distributor; obtaining market acceptance of our product candidates; addressing any competing technological and market developments; negotiating favorable terms in any collaboration, licensing, or other arrangements into which we may enter; maintaining good relationships with our collaborators and licensors; maintaining, protecting, and expanding our portfolio of IP rights, including patents, trade secrets, and know-how; and attracting, hiring, and retaining qualified personnel.

Cash Flows

The following is a summary of cash flows for the three months ended March 31, 2020 and 2019:

	Three Months Ended March 31,	
	2020	2019
	(In thousands)	
Net cash used in operating activities	$ (38,545)	$ (21,453)
Net cash provided by investing activities	$ 57,448	$ 5,695
Net cash provided by financing activities	$ 4,864	$ 3,999

Net cash used in operating activities

Net cash used in operating activities of $38.5 million and $21.5 million during the three months ended March 31, 2020 and 2019, respectively, primarily reflect increased spend in our research and development activities, offset in part by the receipt of $1.0 million and $7.5 million from our collaboration partners, respectively, during those periods.

Net cash provided by investing activities

During the three months ended March 31, 2020 and 2019, our investing activities provided net cash of $57.4 million and $5.7 million, respectively. The increase in the three months ended March 31, 2020 is primarily due to an increase of $58.3 million from marketable securities activity during the period, as $89.5 million in marketable securities matured and $31.2 million in marketable securities were purchased. The increase in the three months ended March 31, 2019 is primarily due to an increase of $7.2 million from marketable securities activity during the period, as $26.5 million in marketable securities matured and $19.3 million in marketable securities were purchased. These increases in cash provided by investing activity were offset in part by the use of $0.8 million and $1.5 million related to purchases of property and equipment in the three months ended March 31, 2020 and 2019, respectively.

Net cash provided by financing activities

Net cash provided by financing activities of $4.9 million during the three months ended March 31, 2020 includes $4.5 million in net proceeds from at-the-market offerings and $0.3 million in cash received from the exercise of stock options. Net cash provided by financing activities of $4.0 million during the three months ended March 31, 2019 includes $3.6 million in net proceeds from at-the-market offerings and $0.4 million in cash received from the exercise of stock options.

Critical Accounting Policies

Our critical accounting policies require the most significant judgments and estimates in the preparation of our condensed consolidated financial statements. Management has determined that our most critical accounting policies are those relating to revenue recognition and equity-based compensation. There have been no changes to our critical accounting policies from those which were discussed in our Annual Report for the year ended December 31, 2019.

Recent Accounting Pronouncements

Please read Note 2, “Summary of Significant Accounting Policies”, to our condensed consolidated financial statements included in Part I, Item 1, “Notes to Condensed Consolidated Financial Statements,” of this Quarterly Report on Form 10-Q for a description of recent accounting pronouncements applicable to our business.

Contractual Obligations

In March 2020, we entered into a second amendment to the 130 Brookline Lease (the "Second Amendment"). The Second Amendment amends certain terms of our existing lease, dated October 21, 2014, as amended on April 5, 2019. The Second Amendment extends the term of the 130 Brookline Lease by approximately six years through January 31, 2031. This extended term is included as part of the lease liability and right-of-use asset at March 31, 2020. The Second Amendment also provides an option to extend the lease for two consecutive five-year terms. The Company recognized a right-of-use asset and lease liability of approximately $7.3 million related to the Second Amendment.

In March 2020, we entered into an agreement to lease approximately 39,000 square feet of office and laboratory space at 281 Albany Street in Cambridge, Massachusetts under an operating lease agreement (the "281 Albany Lease"). The 281 Albany Lease is expected to commence on October 1, 2020, and our obligation to pay rent will start on the date that is six months after the commencement date or the date on which we occupy the premises, whichever occurs earlier (the "Rent Commencement Date"). The initial term of the 281 Albany Lease is ten years following the Rent Commencement Date. The base rent under the 281 Albany Lease is $99.00 per square foot per year during the first year of the term, which is subject to scheduled annual increases up to $128.87 per square foot per year during the last year of the initial term, plus certain operating expenses and taxes. In addition, the landlord will contribute an aggregate of $4.4 million toward the cost of construction and tenant improvements for the premises. We have the option to extend the 281 Albany Lease for two successive five-year terms.

There were no other material changes to our contractual obligations during the three months ended March 31, 2020. For a complete discussion of our contractual obligations, please refer to our *Management's Discussion and Analysis of Financial Condition and Results of Operations* in our Annual Report for the year ended December 31, 2019.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements as defined under the rules and regulations of the SEC.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

The market risk inherent in our financial instruments and in our financial position represents the potential loss arising from adverse changes in interest rates. As of March 31, 2020, we had cash equivalents and marketable securities of $246.6 million consisting of interest-bearing money market accounts, commercial paper, corporate and financial institution debt securities, U.S. Treasury securities and asset-backed securities. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our investments are primarily in marketable securities. Due to the short-term duration of our investment portfolios and the low risk profile of our investments, we do not believe an immediate change of 100 basis points, or one percentage point, would have a material effect on the fair market value of our investment portfolio. Declines in interest rates, however, would reduce future investment income.

We do not have any foreign currency or derivative financial instruments. Inflation generally affects us by increasing our cost of labor and program costs. We do not believe that inflation had a material effect on our results of operations during the three months ended March 31, 2020.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We have established disclosure controls and procedures designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and is accumulated and communicated to management, including the principal executive officer (our Chief Executive Officer) and principal financial officer (our Chief Financial Officer), to allow timely decisions regarding required disclosure.

Our management, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Quarterly Report on Form 10-Q. Management recognizes that any disclosure controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives. Our disclosure controls and procedures have been designed to provide reasonable assurance of achieving their objectives. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of March 31, 2020.

Changes in Internal Control over Financial Reporting

No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the three months ended March 31, 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. As a result of the COVID-19 pandemic, in March 2020, most of our employees began working remotely. We have not identified any material changes in our internal control over financial reporting as a result of these changes to the working environment. We are continually monitoring and assessing the COVID-19 situation to determine any potential impacts on the design and operating effectiveness of our internal controls over financial reporting.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings

In the ordinary course of business, we are from time to time involved in lawsuits, claims, investigations, proceedings, and threats of litigation related to intellectual property ("IP"), commercial arrangements and other matters, including the matter noted below. The outcome of any such legal proceedings, regardless of the merits, is inherently uncertain. In addition, litigation and related matters are costly and may divert the attention of our management and other resources that would otherwise be engaged in other activities. If we were unable to prevail in any such legal proceedings, our business, results of operations, liquidity and financial condition could be adversely affected.

"Item 3. Legal Proceedings" of our Annual Report on Form 10-K ("Annual Report") for the fiscal year ended December 31, 2019 includes additional discussion of our current legal proceedings.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. Careful consideration should be given to the following risk factors, in addition to the other information set forth in this Quarterly Report on Form 10-Q, our Annual Report for the year ended December 31, 2019 and in other documents that we file with the SEC, in evaluating us and our business. If any of the following risks and uncertainties actually occurs, our business, prospects, financial condition and results of operations could be materially and adversely affected. The risks described below are not intended to be exhaustive and are not the only risks facing us. New risk factors can emerge from time to time, and it is not possible to predict the impact that any factor or combination of factors may have on our business, prospects, financial condition and results of operations.

Risks Related to the Discovery, Development, Manufacturing and Commercialization of Product Candidates

CRISPR/Cas9 genome editing technology is not yet clinically validated for human therapeutic use. The approaches we are taking to discover and develop novel therapeutics using CRISPR/Cas9 systems are unproven and may never lead to marketable products. If we are unable to develop viable product candidates, achieve regulatory approval for any such product candidate or market and sell any product candidates, we may never achieve profitability.

We are focused on developing curative medicines utilizing the CRISPR/Cas9 genome editing technology, including *in vivo* therapies and engineered cell therapies. Although there have been significant advances in recent years in the fields of gene therapy, which typically involves introducing a copy of a gene into a patient's cells, and genome editing in recent years, *in vivo* CRISPR-based genome editing technologies are relatively new, and their therapeutic utility is largely unproven. In addition, even though cell therapy products have been developed and received regulatory approval in key jurisdictions, such as the United States ("U.S.") and European Union ("EU"), no genome editing *in vivo* therapy or genome-edited engineered cell therapy has been approved, and the potential to successfully obtain approval remains unproven.

The CRISPR/Cas9 therapies, whether *in vivo* or engineered cell therapies, that we intend to develop have not yet been clinically tested by us, and we are not aware of any clinical trials for safety or efficacy having been completed by third parties involving these CRISPR/Cas9-based therapies. The scientific evidence to support the feasibility of developing *in vivo* products or engineered cell therapies based on the CRISPR/Cas9 technology is both preliminary and limited. Successful development of products by us will require solving a number of issues, including developing or obtaining technologies to safely deliver a therapeutic agent into target cells within the human body or engineer human cells while outside of the body such that the modified cells can have a therapeutic effect when delivered to the patient, optimizing the efficacy and specificity of such products, and ensuring the therapeutic selectivity, efficacy, potency, purity and safety of such products. There can be no assurance we will be successful in solving any or all of these issues.

We have principally concentrated our research efforts to date on bringing CRISPR/Cas9-based therapeutics to the clinic for various initial indications, and our future success is highly dependent on the successful development of CRISPR-based genome editing technologies, cellular delivery methods and therapeutic applications for these indications. These indications are the principal focus of our on-going development efforts, and we may decide to alter or abandon these programs as new data become available and we gain experience in developing CRISPR/Cas9-based therapeutics. We cannot be sure that our CRISPR/Cas9 efforts and technologies will yield satisfactory products that are safe and effective, sufficiently pure or potent, manufacturable, scalable or profitable in our selected indications or any other indication we pursue. We cannot guarantee that progress or success in developing any particular CRISPR/Cas9 therapeutic product will translate to other CRISPR/Cas9 products.

Public perception and related media coverage of potential therapy-related efficacy or safety issues, including adoption of new therapeutics or novel approaches to treatment, as well as ethical concerns related specifically to genome editing and CRISPR/Cas9, may adversely influence the willingness of subjects to participate in clinical trials, or if any therapeutic is approved, of physicians and patients to accept these novel and personalized treatments. Physicians, health care providers and third-party payors often are slow to adopt new products, technologies and treatment practices, particularly those that may also require additional upfront costs and training. Physicians may not be willing to undergo training to adopt these novel and potentially personalized therapies, may decide the particular therapy is too complex or potentially risky to adopt without appropriate training, and may choose not to administer the therapy. Further, due to health conditions, genetic profile or other reasons, certain patients may not be candidates for the therapies. In addition, responses by the U.S., state or foreign governments to negative public perception, ethical concerns or financial considerations may result in new legislation, regulations, or medical standards that could limit our ability to develop or commercialize any product candidates, obtain or maintain regulatory approval or otherwise achieve profitability. Based on these and other factors, health care providers and payors may decide that the benefits of these new therapies do not or will not outweigh their costs.

Our ability to generate product revenue is dependent on the success of our application of CRISPR/Cas9 technology for human therapeutic use, which is at an early stage of development and will require significant additional discovery efforts, preclinical testing and clinical studies and manufacturing capabilities, as well as applicable regulatory guidance regarding preclinical testing and clinical studies from the U.S. Food and Drug Administration ("FDA") and other similar regulatory authorities, before we can seek regulatory approval and begin commercial sales of any potential product candidates.

Our ability to generate product revenue is highly dependent on our ability to obtain regulatory approval of and successfully commercialize one or more of our product candidates. Any product candidates we discover will require preclinical and clinical activities and studies, regulatory review and approval in each jurisdiction in which we intend to market the products, substantial investment, establishing manufacturing capabilities, access to sufficient commercial manufacturing capacity and significant marketing efforts before we can generate any revenue from product sales. Before obtaining marketing approval from regulatory authorities for the sale of a product candidate, we must conduct extensive clinical trials to demonstrate the safety, purity and potency, as well as the efficacy, of the product candidates in humans. We cannot be certain that we will be successful on any of these endeavors, or that any of our product candidates will be successful in clinical trials and, even if successful, that we will receive regulatory approval.

Our approach to developing therapies centers on using the CRISPR/Cas9 technology to alter, introduce or remove genetic information *in vivo* to treat various disorders, or to engineer human cells *ex vivo* to create therapeutic cells that can be introduced into the human body to address the underlying disease. Because these are new therapeutic approaches, discovering, developing, manufacturing and commercializing our product candidates subject us to a number of challenges, including:

- obtaining regulatory approval from the FDA and other similar regulatory authorities such as the European Medicines Agency ("EMA"), the Medicines and Healthcare products Regulatory Agency ("MHRA"), the Therapeutic Goods Administration ("TGA") and Health Canada, which have very limited or no experience with the clinical development of CRISPR/Cas9 therapeutics, and which may require additional significant testing or data compared to more traditional therapies;
- seeking and obtaining regulatory approval from the FDA and other similar regulatory authorities in light of no formal regulatory guidance specifically for CRISPR/Cas9-based *in vivo* therapeutics, including preclinical and clinical requirements for an Investigational New Drug application ("IND") or corresponding applications outside the U.S., such as a Clinical Trial Application ("CTA"), Clinical Trial Notification ("CTN") or Clinical Trial Exemption ("CTX"), and, as appropriate thereafter, a Biologics License Application ("BLA"), or corresponding applications outside the U.S., such as a Marketing Authorization Application ("MAA");
- educating medical personnel, including clinical investigators, and patients regarding the potential benefits and side effect profile of each of our product candidates;
- developing processes for the safe administration of these products, including long-term follow-up for all patients who receive treatment with any of our product candidates;
- sourcing clinical and, if approved, commercial supplies for the materials used to manufacture and process our product candidates, which may include importing or exporting materials between different jurisdictions;

- establishing process development and manufacturing capabilities that can produce sufficient clinical and, if approved, commercial quantities of product candidates in accordance with the FDA and other relevant regulatory agencies' requirements;
- developing a manufacturing process and distribution network with a cost of goods that allows for an attractive return on investment; and
- establishing sales and marketing capabilities in anticipation of, and after obtaining, any regulatory approval to gain market authorization.

Additionally, because our *in vivo* technology potentially involves genome editing across multiple cell and tissue types, we are subject to many of the challenges and risks that other genome editing therapeutics and gene therapies face, including:

- regulatory guidance regarding the requirements governing gene and genome editing therapy products have changed and may continue to change in the future. To date, only a limited number of products that involve *in vivo* gene transfer have been approved globally;
- improper modulation of a gene sequence, including insertion of a sequence into a patient's chromosome, could lead to cancer, other aberrantly functioning cells or other diseases, including death;
- transient expression of the Cas9 protein within patients' cells could lead to patients having an immunological reaction towards those cells, which could be severe or life-threatening;
- corrective expression of a missing protein in patients' cells could result in the protein being recognized as foreign, and lead to a sustained immunological reaction against the expressed protein or expressing cells, which could be severe or life-threatening; and
- regulatory agencies may require extended follow-up observation periods of patients who receive treatment using genome editing products, including for example the FDA's recommended 15-year follow-up observation period for these patients, and we will need to adopt such observation periods for our product candidates if required by the relevant regulatory agency, which could vary by country or region.

Further, because our *ex vivo* product candidates involve editing human cells and then delivering modified cells to patients, we are subject to many of the challenges and risks that engineered cell therapies face. For example, clinical trials using engineered cell-based gene therapies may require unique products to be created for each patient and such individualistic manufacturing may be both inefficient and cost-prohibitive.

To date, human clinical trials utilizing either *in vivo* or *ex vivo* CRISPR/Cas9-based therapeutics are still at an early stage. There is no certainty that the FDA or other similar agencies will continue to apply to all our CRISPR/Cas9 product candidates the same regulatory pathway and requirements it is applying to other *in vivo* therapies or *ex vivo* engineered therapeutics; and the FDA and other regulatory authorities have provided limited additional specific written guidance regarding preclinical or clinical studies or regulatory considerations for either *in vivo* or *ex vivo* therapeutics using genome editing technology. In addition, if any product candidates encounter safety or efficacy problems, development delays, regulatory issues or other problems, our development plans and business could be significantly harmed. Further, competitors that are developing *in vivo* or *ex vivo* products with similar technology may experience problems with their product candidates or programs that could in turn cause us to identify problems with our product candidates and programs that would potentially harm our business.

Also, uncertainty exists regarding the future scope and effect of the FDA's application of its regulatory framework to CRISPR/Cas9 therapies, in particular relating to the review and approval of human therapeutic products because the current U.S. administration and federal legislators have publicly declared their intention to modify the current legal framework governing the FDA. Any such changes to the FDA requirements could impact our ability to obtain approval for our products or sell them profitably. Also, upon completing its transition period as it exits the EU, the United Kingdom ("UK") may enact legislation related to the approval and oversight of human therapeutics in that nation. Until any such legislation is enacted, we will be uncertain as to its effects on our business, including our ability to seek and obtain approval for our products in the UK.

Results, including positive results, from our initial preclinical activities and studies are not necessarily predictive of our other ongoing and future preclinical and clinical studies, and they do not guarantee or indicate the likelihood of approval of any potential product candidate by the FDA or any other regulatory agency. If we cannot replicate the positive results from any of our preclinical or clinical activities and studies, we may be unable to successfully develop, obtain regulatory approval for and commercialize any potential product candidate.

There is a high failure rate, as well as potential substantial and unanticipated delays, for product candidates progressing through preclinical and clinical studies. Even if we are able to successfully complete our ongoing and future preclinical and clinical activities and studies for any potential product candidate, we may not be able to replicate, or may have to engage in significant efforts and resource and time investments to replicate, any positive results from these or any other studies in any of our future preclinical and clinical trials, and they do not guarantee approval of any potential product candidate by the FDA or any other necessary regulatory authorities in a timely manner or at all. Companies in the pharmaceutical and biotechnology industries have commonly suffered significant setbacks or delays in clinical studies after achieving positive results in early stage development, and we cannot be certain that we will not face similar setbacks. These setbacks have been caused by, among other things, preclinical findings made before, during and after clinical studies were underway, or observations regarding the lack of safety or efficacy made in clinical studies, which could include new or previously unreported adverse events. In addition, regulatory delays or rejections may be encountered as a result of many factors, including changes in the relevant laws, regulations or regulatory policy during the period of product development.

Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that believed their product candidates performed satisfactorily in such studies nonetheless failed to obtain FDA or other necessary regulatory agency approval. If we fail to obtain results in our on-going, planned and future preclinical and clinical activities and studies sufficient to meet the requirements of the relevant regulatory agencies, the development timeline and regulatory approval and commercialization prospects for any potential product candidate, and, correspondingly, our business and financial prospects, would be materially adversely affected.

Negative public opinion and increased regulatory scrutiny of CRISPR/Cas9 use, genome editing or gene therapy generally may damage public perception of the safety of any product candidates that we develop and adversely affect our ability to conduct our business or obtain regulatory approvals for such product candidates.

Gene therapy in general, and genome editing in particular, remain novel technologies, with only a limited number of gene therapy products approved to date in the U.S. and EU. Public perception may be influenced by claims that gene therapy or genome editing, including the use of CRISPR/Cas9, is unsafe or unethical, or carries an undue risk of side effects, such as improper insertion of a gene sequence into a patient's chromosome could lead to cancer, and gene therapy or genome editing may not gain the acceptance of the public or the medical community. In particular, our success will depend upon physicians who specialize in the treatment of diseases targeted by our product candidates prescribing treatments that involve the use of our 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. 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 ability to develop or commercialize any product candidates, obtain or maintain regulatory approval 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 product candidates or demand for any products we may develop. For example, earlier gene therapy trials led to several well-publicized adverse events, including cases of leukemia and death. Serious adverse events such as these in our clinical trials, or other clinical trials involving gene therapy or genome editing products or our competitors' products, even if not ultimately attributable to the relevant product candidates, and the resulting publicity could result in increased government regulation, unfavorable public perception, potential regulatory delays in the testing or approval of our product candidates, stricter labeling requirements for those product candidates that are approved and a decrease in demand for any such product candidate. In addition, the use of the technology by third parties in areas that are not being pursued by us, such as for targeting and editing of embryonic cells, could adversely impact public and governmental perceptions regarding the ethics and risks of the CRISPR/Cas9 technology and lead to social or legal changes that could limit our ability to apply the technology to develop human therapies addressing disease. For example, reports of the use of CRISPR/Cas9 in China and Russia to edit embryos *in utero* have generated and may continue to create negative public perception about the use of the technology in humans. Negative public and governmental perception of the technology, or additional governmental regulation of our technologies, could also adversely affect our stock price or our ability to enter into revenue generating collaborations or obtain additional funding from the public markets.

Inconclusive results, lack of efficacy, adverse events or additional safety concerns in clinical trials that we or others conduct may impede the regulatory approval process or overall market acceptance of our future product candidates.

Therapeutic applications of genome editing technologies, and CRISPR/Cas9 in particular, for both *in vivo* products and in engineered cell therapies, are unproven and must undergo rigorous clinical trials and regulatory review before receiving marketing authorization. If the results of our clinical studies or those of any other third parties, including with respect to genome editing technology or engineered cell therapies, are inconclusive, fail to show efficacy or if such clinical trials give rise to safety concerns or adverse events, we may:

- be delayed in obtaining marketing approval for our future product candidates, if at all;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings;
- be subject to the addition of labeling statements, such as warnings or contraindications, or other types of regulatory restrictions or scrutiny;
- be subject to changes in the way the product is administered;
- be required to perform additional clinical studies to support approval or be subject to additional post-marketing testing requirements;
- have regulatory authorities modify or withdraw their legal requirements or written guidance, if any, regarding the applicable regulatory approval pathway or any approval of the product in question, or impose restrictions on its distribution in the form of a modified Risk Evaluation and Mitigation Strategy ("REMS");
- be sued; or
- experience damage to our reputation.

Additionally, our future product candidates could potentially cause other adverse events that have not yet been predicted and the potentially permanent nature of genome editing effects, including CRISPR/Cas9's effects, on genes or novel cell therapies in the organs of the human body may make these adverse events irreversible. The inclusion of critically ill patients in our clinical studies or those of our competitors may result in deaths or other adverse medical events, including those due to other therapies or medications that such patients may be using. Any of these events could prevent us from achieving or maintaining regulatory approval or market acceptance of our future product candidates and impair our ability to achieve profitability.

Clinical development involves a lengthy and expensive process, with an uncertain outcome. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of any product candidates.

All of our lead programs are still in the discovery or preclinical stage, and their risk of failure is high. It is impossible to predict when or if any of our programs will prove effective and safe in humans or will receive regulatory approval. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we must complete preclinical development and then conduct extensive clinical trials to demonstrate the safety and efficacy of any of our future product candidates in humans. Preclinical and clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. We may be unable to establish clinical endpoints that applicable regulatory authorities would consider clinically meaningful, and a clinical trial can fail at any stage of testing. The outcome of preclinical testing and early clinical trials may not be predictive of the success of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. Moreover, preclinical and clinical data are often susceptible to varying 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 of their products.

Successful completion of clinical trials is a prerequisite to submitting a BLA to the FDA, and similar applications to comparable foreign regulatory authorities, for each product candidate and, consequently, the ultimate approval and commercial marketing of any product candidates. We do not know whether any of our clinical trials will begin or be completed on schedule, if at all.

We may experience delays in completing our preclinical studies and initiating or completing clinical trials. We also may experience numerous unforeseen events during, or as a result of, any future clinical trials that we could conduct, which could delay or prevent our ability to receive marketing approval or commercialize our product candidates, including:

- regulators, institutional review boards ("IRBs") or ethics committees may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- we may experience delays in reaching, or fail to reach, agreement on acceptable terms with prospective trial sites and prospective contract research organizations ("CROs"), the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- clinical trials of any product candidates may fail to show safety or efficacy, produce negative or inconclusive results and we may decide, or regulators may require us, to conduct additional preclinical studies or clinical trials or we may decide to abandon product development programs;
- the number of patients required for clinical trials of any product candidates may be larger than we anticipate, enrollment in these clinical trials may be lower than required by the regulatory agencies or slower than we anticipate, or participants may drop out of these clinical trials or fail to return for post-treatment follow-up at a higher rate than we anticipate;
- regulatory agencies may require us to perform more extensive or lengthier clinical testing compared to existing therapeutic modalities;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all, or may deviate from the clinical trial protocol or drop out of the trial, which may require that we add new clinical trial sites or investigators;
- we may elect to, or regulators, IRBs or ethics committees may require that we or our investigators, suspend or terminate clinical research or trials for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks;
- the cost of preclinical studies and clinical trials of any product candidates may be greater than we anticipate;
- the supply or quality of our product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient or inadequate, or not available in a reasonable timeframe;
- our product candidates may have undesirable side effects or other unexpected characteristics, causing us or our investigators, regulators, IRBs or ethics committees to suspend or terminate the trials, or reports may arise from preclinical or clinical testing of other gene therapies or genome editing-based therapies that raise safety or efficacy concerns about our product candidates; and
- the FDA or other regulatory authorities may require us to submit additional data, such as long-term toxicology studies, or impose other requirements before permitting us to initiate or rely on a clinical trial.

We could also encounter delays if a clinical trial is suspended or terminated by us, the IRBs of the institutions in which such trials are being conducted or the relevant ethics committee, the Data Safety Monitoring Board ("DSMB") for such trial, or the FDA or other relevant regulatory authorities. Such authorities may impose such a suspension or termination 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 or other regulatory authorities, resulting in the imposition of a clinical hold, manufacturing or quality control issues, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a product or treatment, failure to establish or achieve clinically meaningful trial endpoints, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. 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 product candidates. Further, the FDA or other regulatory authorities may disagree with our clinical trial design and our interpretation of data from clinical trials or may change the requirements for approval even after they have reviewed and commented on the design for our clinical trials.

Our product development costs will increase if we experience delays in clinical testing or marketing approvals. We do not know whether any of our preclinical studies or clinical trials will begin as planned, will need to be restructured or will be completed on schedule, or at all. Significant preclinical or clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates and may allow our competitors to bring products to market before we do, potentially impairing our ability to successfully commercialize our product candidates and harming our business and results of operations. Any delays in our preclinical or future clinical development programs may harm our business, financial condition and prospects significantly.

We face significant competition in an environment of rapid technological change. The possibility that our competitors may achieve regulatory approval before we do or develop therapies that are more advanced or effective than ours may harm our business and financial condition or our ability to successfully market or commercialize our product candidates.

The biotechnology and pharmaceutical industries, including the genome editing field and engineered cell therapies, are characterized by rapidly changing technologies, significant competition and a strong emphasis on intellectual property. We face substantial competition from many different sources, including large and specialty pharmaceutical and biotechnology companies, academic research institutions, government agencies and public and private research institutions.

Competitors in our efforts to provide genetic therapies to patients can be grouped into at least three sets based on their product discovery platforms:

- genome editing companies focused on CRISPR/Cas9 including: Beam Therapeutics Inc., Caribou Biosciences, Inc. (“Caribou”), CRISPR Therapeutics, Inc., Editas Medicine, Inc., ToolGen, Inc., Tracr Hematology Limited and Verve Therapeutics, Inc.;
- other genome editing companies including: Allogene Therapeutics, Inc., bluebird bio, Inc., Cellectis S.A., Homology Medicines, Inc., Poseida, Inc., Precision BioSciences, Inc. and Sangamo Therapeutics, Inc.; and
- gene therapy companies developing *in vivo* or *ex vivo* therapies, such as cell therapies, including: Asklepios Biopharmaceutical, Inc., bluebird bio, Inc., Cellectis S.A., Bristol Myers Squibb (which acquired Celgene Corporation), Gilead Sciences, Inc. (which acquired Kite Pharma, Inc.), Novartis A.G., Roche Holding AG (which acquired Spark Therapeutics, Inc.) and Voyager Therapeutics, Inc.

Our competitors also include companies that are or will be developing other genome editing methods as well as small molecules, biologics, *in vivo* gene therapies, engineered cell therapies (both autologous and allogeneic) and nucleic acid-based therapies for the same indications that we are targeting with our CRISPR/Cas9-based therapeutics.

Any advances in gene therapy, engineered cell therapies or genome editing technology made by a competitor may be used to develop therapies that could compete against any of our product candidates.

Many of these competitors have substantially greater research and development capabilities and financial, scientific, technical, intellectual property, manufacturing, marketing, distribution and other resources than we do, and we may not be able to successfully compete with them.

To become and remain profitable, we must discover, develop, manufacture and eventually commercialize product candidates with significant market potential, which will require us to be successful in a range of challenging activities. These activities can include completing preclinical studies and clinical trials of product candidates, obtaining marketing approval for product candidates, manufacturing at a sufficient scale, marketing and selling products that are approved and satisfying any pre-approval, approval and post-marketing requirements. Even if we are successful in selecting and developing any product candidates, in order to compete successfully we may need to be first-to-market or demonstrate that our CRISPR/Cas9-based products are superior to therapies based on the same or different treatment methods. If we are not first-to-market or are unable to demonstrate such superiority, any products for which we are able to obtain approval may not be commercially successful. Furthermore, in certain jurisdictions, if a competitor has orphan drug status for a product and if our product candidate is determined to be contained within the scope of a competitor’s orphan drug exclusivity, then approval of our product for that indication or disease could potentially be blocked, for example, for up to seven years in the U.S. and 10 years in the EU.

We may never succeed in any or all of these activities and, even if we do, we may never generate revenues that are significant or large enough to achieve profitability. If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would decrease our value and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations.

If we experience delays or difficulties in the enrollment of patients in clinical trials, our ability to complete clinical trials or our receipt of necessary regulatory approvals could be delayed or prevented.

We may not be able to initiate or continue clinical trials for any future product candidates if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA or similar regulatory authorities outside the U.S. If patients are unwilling to participate in our clinical studies because of concerns about, or negative publicity from, adverse events in the genome editing, gene therapy or engineered cell therapy fields, the novel nature of the CRISPR/Cas9 genome editing technology, the irreversibility of the effects of CRISPR/Cas9 or for other reasons, including competitive clinical studies for similar patient populations, then the timeline for recruiting patients, conducting studies and obtaining regulatory approval of potential products may be delayed. Other events, such as the coronavirus disease 2019 ("COVID-19") pandemic also could adversely impact the initiation, continuation and completion of our clinical trials by, for example, delaying the dosing of patients, reducing the number of patients, healthcare providers or clinical facilities available or willing to participate in the clinical trials. These delays could result in increased costs, delays in advancing our product development, delays in testing the effectiveness of our technology or termination of the clinical studies altogether. In addition, any patients who would otherwise be eligible for clinical trials that we may hold may instead enroll in clinical trials of product candidates of our competitors.

Patient enrollment is affected by other factors including:

- the size, location and nature of the patient population;
- the severity of the disease under investigation;
- the patient eligibility criteria for the study in question;
- the perceived risks and benefits of the product candidate under study;
- the design of the clinical trial;
- the availability of alternative treatments;
- our payments for conducting clinical trials;
- the patient referral practices of physicians;
- the ability to monitor patients adequately during and after treatment; and
- the proximity and availability of clinical trial sites for prospective patients.

Our inability to enroll a sufficient number of patients for clinical trials would result in significant delays and could require us to abandon one or more clinical trials altogether. Enrollment delays in clinical trials may result in increased development costs for any of our potential future product candidates, which would cause our value to decline and limit our ability to obtain additional financing. Furthermore, we expect to rely on CROs and clinical trial sites to ensure the proper and timely conduct of our clinical trials, and, while we expect to enter into agreements governing their committed activities, we will have limited influence over their actual performance.

Research and development of biopharmaceutical products is inherently risky. We may not be successful in our efforts to use and enhance our genome editing technology to create a pipeline of product candidates, establish the necessary manufacturing capabilities, obtain regulatory approval and develop commercially successful products, or we may expend our limited resources on programs that do not yield a successful product candidate and fail to capitalize on potential product candidates or diseases that may be more profitable or for which there is a greater likelihood of success. If we fail to develop product candidates, our commercial opportunity, if any, will be limited.

Although we have selected our initial product candidates for clinical development for our transthyretin amyloidosis ("ATTR"), acute myeloid leukemia ("AML") and hereditary angioedema ("HAE") programs, we are at an early stage of development and our technology and approach has not yet led, and may never lead, to any product candidate deemed appropriate for clinical development by a regulatory agency or any approved or commercially successful products. Even if we are successful in building our pipeline of product candidates, completing clinical development, establishing the necessary manufacturing processes and capabilities, obtaining regulatory approvals and commercializing product candidates will require substantial additional funding and are prone to the risks of failure inherent in therapeutic product development. Investment in biopharmaceutical product development involves significant risk that any potential product candidate will fail to demonstrate adequate efficacy or an acceptable safety profile, gain regulatory approval, or become commercially viable.

We cannot provide any assurance that we will be able to successfully advance any product candidates that we discover through the research process. Our research programs may initially show promise, yet fail to yield product candidates for clinical development or commercialization for many reasons, including the following:

- our technology and approach may not be successful in identifying product candidates deemed appropriate for clinical development and commercialization;
- we may not be able or willing to assemble sufficient resources to acquire or discover product candidates for clinical development and commercialization;
- animal or other non-human models for the targeted disease may not be appropriate or available to conduct preclinical testing;
- testing in preclinical models may not be predictive of human clinical testing results because species have distinct genomic sequences that may require the use of species-specific guides and reagents;
- our product candidates may not succeed in preclinical or clinical testing;
- our planned risk mitigation strategy for selecting our initial indications may fail or we may not be able to efficiently apply learnings from our initial development programs to future development programs;
- progress made in one target or using one editing approach may not translate to any other target or editing approach;
- we may be unable to optimize the therapeutic efficiency, specificity, or selectivity of our future product candidates;
- our therapeutic delivery systems may fail so that even a product candidate with therapeutic activity might not demonstrate a clinically meaningful therapeutic effect;
- a product candidate may not demonstrate in patients the biological, chemical and pharmacological properties identified in laboratory and preclinical studies, or they may interact with human biological systems in unforeseen, ineffective or even harmful ways;
- a product candidate may on further study not replicate the results from earlier studies or be shown to have harmful side effects or other characteristics that indicate it is unlikely to be effective or otherwise does not meet applicable regulatory criteria;
- the therapeutic effect of a product candidate may not be permanent and may diminish over time;
- we may not be able to sufficiently control the effect of a product candidate to gain regulatory approval;
- a single treatment course may not be sufficient for a cure or therapeutic benefit, and it may take several treatment courses for the product to be effective;
- our product candidates may not be sufficiently well-tolerated for either one-time or repeat treatments necessary for maximum effectiveness;

- a well-defined and achievable pathway to regulatory approval may never materialize for a specific product candidate;
- competitors may develop alternatives that render our product candidates obsolete, redundant or less attractive;
- product candidates we develop may be covered by third-party or other exclusive rights or may not receive desired regulatory exclusivity, and we may be unable to maintain, expand or protect our intellectual property rights;
- the market for a product candidate may change during our program so that the continued development of that product candidate is no longer reasonable;
- we may be unable to manufacture the product candidates after transferring our manufacturing processes from our research and development facilities to larger-scale facilities operated by either a contract manufacturing organization ("CMO") or by us, as well as delays or failure by our CMOs or us to make any changes to such manufacturing process to meet specifications for the product candidates' specifications;
- a product candidate may not be capable of being produced in clinical and, if approved, commercial quantities at an acceptable cost, or at all;
- we may be unable to successfully maintain existing collaborations or licensing arrangements or enter into new ones throughout the development process as appropriate; and
- a product candidate may not be accepted as safe and effective by physicians, patients, hospitals, third-party payors and others in the medical community.

If any of these events occur, we may be forced to abandon our development efforts for a product candidate, program or programs, or we may not be able to identify, discover, develop, manufacture or commercialize product candidates, which would have a material adverse effect on our business and could potentially cause us to cease operations.

Because we have limited financial and managerial resources, we are initially focused on specific research programs. As a result, we may fail to capitalize on other viable commercial products or profitable market opportunities, be required to forego or delay pursuit of opportunities with other product candidates or other diseases that may later prove to have greater commercial potential, or relinquish valuable rights to such product candidates through collaboration, licensing or other royalty arrangements in cases in which it would have been advantageous for us to retain sole development and commercialization rights. For additional information regarding the factors that will affect our ability to achieve revenue from product sales, see the risk factor entitled "We have never generated any revenue from product sales and our ability to generate revenue from product sales and become profitable depends significantly on our success in a number of areas."

If we do not successfully develop, manufacture and commercialize product candidates based upon our approach, we will not be able to obtain product revenue in future periods, which likely would result in significant harm to our financial position and adversely affect our stock price. Further, our current focus on CRISPR/Cas9 technology for developing products as opposed to multiple, more proven technologies for product development increases the risk associated with our business. If we are not successful in developing a product candidate using CRISPR/Cas9 technology, we may not be able to successfully implement an alternative product development strategy.

Even if we obtain regulatory approval of any product candidates, such candidates may not gain market acceptance among physicians, patients, hospitals, third-party payors and others in the medical community.

The use of the CRISPR/Cas9 system as a framework for developing genome editing-based therapies is a recent development and may not become broadly accepted by physicians, patients, hospitals, third-party payors and others in the medical community. A variety of factors will influence whether our product candidates are accepted in the market, including, for example:

- the clinical indications for which our product candidates are approved;
- the potential and perceived advantages of our product candidates over alternative treatments;
- the incidence and severity of any side effects, including any unintended DNA changes;
- product labeling or product insert requirements of the FDA or other regulatory authorities;

- limitations or warnings contained in the labeling approved by the FDA or other regulatory authorities;
- the timing of market introduction of our product candidates;
- availability or existence of competitive products;
- the cost of treatment in relation to alternative treatments;
- the amount of upfront costs or training required for health care providers to administer our product candidates;
- the availability of adequate coverage, reimbursement and pricing by government authorities and other third-party payors;
- patients' ability to access physicians and medical centers capable of delivering any therapies that we develop;
- the willingness of patients to pay out of pocket in the absence of coverage and reimbursement by government authorities and other third-party payors;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- relative convenience and ease of administration, including as compared to alternative treatments and competitive therapies;
- any restrictions on the use of our product candidates together with other medications;
- interactions of our product candidates with other medicines patients are taking;
- potential adverse events for any products developed, or negative interactions with regulatory agencies, by us or others in the gene therapy and genome editing fields; and
- the effectiveness of our sales and marketing efforts and distribution support.

Even if our products achieve market acceptance, we may not be able to maintain that market acceptance over time if new products or technologies are introduced that are more favorably received than our products, are more cost effective or render our products obsolete. In addition, adverse publicity due to the ethical and social controversies surrounding the therapeutic *in vivo* use of CRISPR/Cas9, gene edited modified cells, or other therapeutics mediums, such as viral vectors that we may use in our clinical trials may limit market acceptance of our product candidates. If our product candidates are approved but fail to achieve market acceptance among physicians, patients, hospitals, third-party payors or others in the medical community, we will not be able to generate significant revenue. Our efforts to educate the health care providers, patients and third-party payors about our products may require significant resources and may never be successful.

If, in the future, we are unable to establish sales, marketing and distribution capabilities or enter into agreements with third parties to sell, market and distribute products based on our technologies, we may not be successful in commercializing our products if and when any product candidates or therapies are approved and we may not be able to generate any revenue.

We do not currently have a sales, marketing or distribution infrastructure and, as a company, have no experience in the sale, marketing or distribution of therapeutic products. To achieve commercial success for any approved product candidate for which we retain sales and marketing responsibilities, we must build our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. In the future, we may choose to build a focused sales and marketing infrastructure to sell, or participate in sales activities with our collaborators for, some of our product candidates if they are approved.

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

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

- our inability to recruit, train and retain adequate numbers of effective sales and marketing personnel;
- the inability of sales personnel to obtain access to physicians or persuade adequate numbers of physicians to prescribe any future product candidates that we may develop;
- the lack of complementary treatments to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines;
- the location of patients in need of our product candidates and the treating physicians who may prescribe the products; and
- unforeseen costs and expenses, as well as legal and regulatory requirements, associated with creating and operating a sales and marketing organization.

If we enter into arrangements with third parties to perform sales, marketing and distribution services, our product revenue or the profitability to us from these revenue streams is likely to be lower than if we were to market and sell any product candidates that we develop ourselves. In addition, we may not be successful in entering into arrangements with third parties to sell and market our product candidates or may be unable to do so on terms that are favorable to us. We likely will 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 product candidates effectively. If we do not establish sales, marketing and distribution capabilities successfully, either on our own or in collaboration with third parties, we may not be successful in commercializing our product candidates. Further, our business, results of operations, financial condition and prospects will be materially adversely affected.

Coverage and reimbursement may be limited or unavailable in certain market segments for our product candidates, if approved, which could make it difficult for us to sell any product candidates or therapies profitably.

The success of our product candidates, if approved, depends on the availability of adequate coverage and reimbursement from third-party payors, including government agencies. There is significant uncertainty related to the insurance coverage and reimbursement of newly approved products, particularly gene editing and engineered cell products. Coverage may be more limited than the purposes for which a therapeutic is approved by the FDA or comparable regulatory authorities in other jurisdictions. In addition, because our product candidates represent new approaches to the treatment of genetic-based diseases, we cannot be sure that coverage and reimbursement will be available for, or accurately estimate the potential revenue from, our product candidates or assure that coverage and reimbursement will be available for any product that we may develop.

In the U.S. and some other jurisdictions, patients who are provided medical treatment for their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Adequate coverage and reimbursement from governmental healthcare programs, such as Medicare and Medicaid in the U.S., and commercial payors are critical to new product acceptance.

Government authorities and other third-party payors, such as private health insurers and health maintenance organizations, decide which drugs and treatments they will cover and the amount of reimbursement. In the U.S., the principal decisions about reimbursement for new medicines are typically made by the Centers for Medicare & Medicaid Services (“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 often follow CMS’ coverage decisions.

Coverage and reimbursement by a third-party payor may depend upon a number of factors, including the third-party payor’s determination that use of a product is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

In the U.S., no uniform policy of coverage and reimbursement for products exists among third-party payors. As a result, obtaining coverage and reimbursement approval of a product from a government or other third-party payor is a time-consuming and costly process that could require us to provide to each payor supporting scientific, clinical and cost-effectiveness data for the use of our products on a payor-by-payor basis, with no assurance that coverage and adequate reimbursement will be obtained. Even if we obtain coverage for a given product, the resulting reimbursement payment rates might not be adequate for us to maintain pricing sufficient to achieve or sustain profitability or may require co-payments that patients find unacceptably high. Additionally, third-party payors may not cover, or provide adequate reimbursement for, long-term follow-up evaluations required following the use of our gene-modifying products. Patients are unlikely to use our product candidates unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our product candidates. Because our product candidates may have a higher cost of goods than conventional therapies, and may require long-term follow up evaluations, the risk that coverage and reimbursement rates may be inadequate for us to achieve profitability may be greater. There is significant uncertainty related to insurance coverage and reimbursement of newly approved products. It is difficult to predict at this time what third-party payors will decide with respect to the coverage and reimbursement for our product candidates.

Moreover, increasing efforts by governmental and third-party payors in the U.S. and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for newly approved products and, as a result, they may not cover or provide adequate payment for our product candidates. We expect to experience pricing pressures in connection with the sale of any of our product candidates due to the trend toward managed healthcare, the increasing influence of health maintenance organizations, cost containment initiatives and additional legislative changes.

We intend to seek approval to market our product candidates in the U.S. and in selected foreign jurisdictions, such as the UK and certain EU members. If we obtain approval in any of these jurisdictions for our product candidates, we will be subject to rules and regulations in those jurisdictions. In some markets, particularly those in the EU and the UK, the pricing of pharmaceutical products, including biologics, is subject to governmental control and other market regulations which could put pressure on the pricing and usage of our product candidates. In these countries, pricing negotiations with governmental authorities can take considerable time after obtaining marketing approval of a product candidate. In addition, market acceptance and sales of our product candidates will depend significantly on the availability of adequate coverage and reimbursement from third-party payors for our product candidates and may be affected by existing and future health care reform measures.

In vivo ***genome editing products and*** **ex vivo** ***engineered cell therapies based on CRISPR-Cas9 genome editing technology are novel and may be complex and difficult to manufacture. We could experience manufacturing problems that result in delays in the development, approval or commercialization of our product candidates or otherwise harm our business.***

The manufacturing process used to produce CRISPR/Cas9-based *in vivo* and engineered cell therapy product candidates may be complex, as they are novel and have not been validated for clinical and commercial production and may require components that are difficult to obtain or manufacture at the necessary quantities and in accordance with regulatory requirements. Several factors could cause production interruptions, including equipment malfunctions; facility unavailability or contamination; raw material cost, shortages or contamination; natural disasters; disruption in utility services; human error; insufficient personnel; inability to meet legal or regulatory requirements; or disruptions in the operations of our suppliers.

Our product candidates that are regulated as biologics, will require processing steps that are more complex than those required for most small molecule drugs. Moreover, unlike small molecules, the physical and chemical properties of a complex product such as ours generally cannot be fully characterized. As a result, assays of the finished product or relevant components may not be sufficient to ensure that the product will perform in the intended manner. Accordingly, we will employ multiple steps to control the manufacturing process to ensure that the process works 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 and litigation, insufficient inventory or production interruption. We may encounter problems achieving adequate quantities and quality of clinical grade materials that meet FDA or other applicable standards or specifications with consistent and acceptable production yields and costs.

In addition, the FDA and other foreign regulatory authorities may require us 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 or other foreign regulatory authorities may require that we not distribute a lot until the relevant 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, product recalls or production interruption. Lot failures, product recalls or production interruption could cause us 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. Problems in our manufacturing process could restrict our ability to meet market demand for our products.

Further, certain of our product candidates may require components that are unavailable or difficult to acquire or manufacture at the necessary scale and in compliance with regulatory requirements to support our clinical trials or, if approved, commercial efforts. In addition, we may have to rely on third-party CMOs to manufacture these components and the final product candidates. We may not have full control of these CMOs and they may prioritize other customers or be unable to provide us with enough manufacturing capacity to meet our objectives. Even if we decide to manufacture the product candidates or their components ourselves, we may face extremely high costs and long timelines to build and maintain manufacturing facilities. We may rely on CMOs outside the U.S. for certain components of our product candidates, and may be subject to importation regulations that may affect our ability to manufacture or increase the cost of our product candidates.

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

Any problems in manufacturing processes or facilities could make us a less attractive collaborator for potential partners, including larger pharmaceutical companies and academic research institutions, which could limit our access to additional attractive development programs.

Our internal computer systems, or those of our collaborators or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our operations and development efforts.

We are increasingly dependent upon information technology systems, infrastructure, and data to operate our business. In the ordinary course of business, we collect, store, and transmit large amounts of confidential information (including but not limited to intellectual property, proprietary business information, and personal information). It is critical that we do so in a secure manner to maintain the confidentiality and integrity of such confidential information. We also have outsourced elements of our operations to third parties, and as a result we manage a number of third-party vendors who may or could have access to our confidential information. Our third-party collaborators also have access to large amounts of confidential information relating to our operations, including our research and development efforts. The size and complexity of our information technology systems, and those of third-party vendors and collaborators, and the large amounts of confidential information stored on those systems, make such systems potentially vulnerable to service interruptions or systems failures, or to security breaches from inadvertent or intentional actions by our employees, third-party vendors, and/or business partners, or from cyber-attacks by malicious third parties. In addition to such risks, the adoption of new technologies may also increase our exposure to cybersecurity breaches and failures. Further, having a significant portion of our workforce working from home for extended periods of time due to the COVID-19 pandemic puts us at greater risk of cybersecurity attacks. Cyber-attacks are increasing in their frequency, sophistication, and intensity, and have become increasingly difficult to detect. Cyber-attacks could include the deployment of harmful malware, denial-of-service attacks, social engineering, “phishing” scams and other means to affect service reliability and threaten the confidentiality, integrity, and availability of information. Significant disruptions of these information technology systems or security breaches could adversely affect our business operations and/or result in the loss, misappropriation, and/or unauthorized access, use, or disclosure of, or the prevention of access to, confidential information (including but not limited to trade secrets or other intellectual property, proprietary business information, and personal information), and could result in financial, legal, business, and reputational harm to us and would adversely affect our operations, including our discovery and research and development programs. For example, any such event that leads to unauthorized access, use, or disclosure of personal information, including personal information regarding our employees of future clinical trial participants, could harm our reputation, require us to comply with federal and/or state breach notification laws and foreign law equivalents, and otherwise subject us to liability, including financial penalties and fines, under laws and regulations that protect the privacy and security of personal information. Also, the loss of preclinical or clinical trial data from completed or future preclinical or clinical trials, respectively, could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to

result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability, our competitive position could be harmed and the further development and commercialization of our product candidates could be delayed. Security breaches and other inappropriate access can be difficult to detect, and any delay in identifying them may lead to increased harm of the type described above. While we have implemented security measures to protect our information technology systems and infrastructure, there is no assurance that such measures will prevent service interruptions or security breaches that could adversely affect our business.

Interruptions in the availability of server systems or communications with internet or cloud-based services, or failure to maintain the security, confidentiality, accessibility or integrity of data stored on such systems, could harm our business.

We rely upon a variety of internet service providers, third-party web hosting facilities and cloud computing platform providers to support our business. Failure to maintain the security, confidentiality, accessibility or integrity of data stored on such systems could result in interruptions in our operations, damage our reputation in the market, increase our service costs, cause us to incur substantial costs, subject us to liability for damages and/or fines, and divert our resources from other tasks, any one of which could materially adversely affect our business, financial condition, results of operations and prospects. If our security measures or those of our third-party data center hosting facilities, cloud computing platform providers, or third-party service partners, are breached, and unauthorized access is obtained to our data or our information technology systems, we may incur significant legal and financial exposure and liabilities.

We also do not have control over the operations of the facilities of our cloud service providers and our third party web hosting providers, and they also may be vulnerable to damage or interruption from natural disasters, cybersecurity attacks, terrorist attacks, power outages and similar events or acts of misconduct. In addition, any changes in these providers' service levels may adversely affect our ability to meet our requirements and operate our business.

In addition, regulatory agencies in and outside the U.S may experience delays or backlogs due to the worldwide COVID-19 pandemic.

Legal, political and economic uncertainty surrounding the planned exit of the United Kingdom from the European Union is a source of instability and uncertainty.

In June 2016, a majority of the eligible members of the electorate in the UK voted to withdraw from the EU in a national referendum, commonly referred to as "Brexit." Subsequently, the UK and the EU agreed to a withdrawal agreement (the "Withdrawal Agreement"). The Withdrawal Agreement was approved by the UK Parliament and the UK formally left the EU on January 31, 2020. Under the Withdrawal Agreement, the UK is subject to a transition period until December 31, 2020 (the "Transition Period"), during which EU rules will continue to apply. Negotiations between the UK and the EU are expected to continue in relation to the customs and trading relationship between the UK and the EU following the expiry of the Transition Period.

The uncertainty concerning the UK's legal, political and economic relationship with the EU after the Transition Period may be a source of instability in the international markets, create significant currency fluctuations, and/or otherwise adversely affect trading agreements or similar cross-border co-operation arrangements (whether economic, tax, fiscal, legal, regulatory or otherwise).

Since the regulatory framework for pharmaceutical products in the UK covering quality, safety and efficacy of pharmaceutical products, clinical trials, marketing authorization, commercial sales and distribution of pharmaceutical products is derived from EU directives and regulations, Brexit could materially impact the future regulatory regime that applies to drugs and the approval of drug candidates in the UK. It remains to be seen how, if at all, Brexit will impact regulatory requirements for product candidates and products in the UK. Given the lack of comparable precedent, it is unclear what financial, trade and legal implications the withdrawal of the UK from the EU, especially in the case of the UK leaving the EU without an agreement defining their respective trading rights and obligations, would have and how such withdrawal would affect us. The long-term impact of Brexit, including on our business and our industry, will depend on the terms that are negotiated in relation to the UK's future relationship with the EU, and we are closely monitoring the Brexit developments in order to determine, quantify and proactively address changes as they become clear.

Risks Related to Our Financial Position and need for Additional Capital

We have never generated any revenue from product sales and our ability to generate revenue from product sales and become profitable depends significantly on our success in a number of areas.

We have no products approved for commercial sale, have not generated any revenue from product sales, and do not anticipate generating any revenue from product sales until sometime after we have received regulatory approval for the commercial sale of a product candidate that we discover. Our ability to generate revenue and achieve and retain profitability depends significantly on our success in many areas, including:

- selecting commercially viable product candidates and effective delivery methods;
- completing research, preclinical and clinical development of product candidates;
- obtaining regulatory approvals and marketing authorizations for product candidates for which we complete clinical trials;
- developing a sustainable and scalable manufacturing process for product candidates, including establishing and maintaining commercially viable supply relationships with third parties, such as CMOs, and potentially establishing our own manufacturing capabilities and infrastructure;
- launching and commercializing product candidates for which we obtain regulatory approvals and marketing authorizations, either directly or with a collaborator or distributor;
- accurately assessing the size and addressability of potential patient populations;
- obtaining market acceptance of our product candidates as viable treatment options;
- addressing any competing technological and market developments;
- negotiating favorable terms in any collaboration, licensing or other arrangements into which we may enter or which may be necessary for us to develop, manufacture or commercialize our product candidates;
- maintaining good relationships with our collaborators and licensors;
- maintaining, protecting and expanding our portfolio of intellectual property rights, including patents, trade secrets and know-how;
- avoiding infringement of or obtaining licenses to any valid intellectual property owned or controlled by third parties; and
- attracting, hiring and retaining qualified personnel.

Even if one or more product candidates that we discover and develop are approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate and the timing of such costs may be out of our control. Our expenses could increase beyond expectations if we are required by the FDA or other regulatory agencies, domestic or foreign, to change our manufacturing processes or assays, or to perform clinical, nonclinical or other types of additional studies. If we are successful in obtaining regulatory approvals to market one or more product candidates, our revenue will be dependent, in part, upon the size of the markets in the territories for which we gain regulatory approval, the accepted price for the product, the ability to get reimbursement at any price and whether we own the commercial rights for that territory. If the number of our addressable disease patients is not as significant as we estimate, the indication approved by regulatory authorities is narrower than we expect 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 approved. If we are not able to generate revenue from the sale of any approved products, we may never become profitable.

Our limited operating history may make difficult the evaluation of our business's success to date and assessment of our future viability.

We are a preclinical-stage company. We were founded and commenced operations in mid-2014. Our operations to date have been limited to organizing and staffing our company, business and scientific planning, raising capital, acquiring and developing technology, identifying potential product candidates, undertaking research and early preclinical studies of potential product candidates for ourselves and collaborators, developing the necessary manufacturing capabilities and evaluating a clinical path for our pipeline programs. All of our product candidates are still in the preclinical development stage. We have not yet demonstrated our ability to successfully initiate any clinical trials, including large-scale, pivotal clinical trials, obtain marketing approvals, manufacture clinical and commercial scale therapeutics, or arrange for a third-party to do so on our behalf, or conduct sales and marketing activities necessary for successful commercialization. Our ability to generate product revenue or profits, which we do not expect will occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of our product candidates, which may never occur. We may never be able to develop or commercialize a marketable product.

Each of our programs may require additional discovery research and then preclinical and clinical development, regulatory approval in multiple jurisdictions, obtaining manufacturing supply, capacity and expertise, building of a commercial organization, substantial investment and significant marketing efforts before we generate any revenue from product sales. In addition, our product candidates must be approved for marketing by the FDA, or certain other foreign regulatory agencies, before we may commercialize any product.

Our limited operating history, particularly in light of the rapidly evolving genome editing field, may make it difficult to evaluate our current business and predict our future performance. Our relatively short history as an operating company makes any assessment of our future success or viability subject to significant uncertainty. We will encounter risks and difficulties frequently experienced by very early stage companies in rapidly evolving fields. If we do not address these risks successfully, our business will suffer.

We have incurred net losses in each period since our inception, anticipate that we will continue to incur net losses in the future and may never achieve profitability.

We are not profitable and have incurred losses in each period since our inception. Our net loss was $31.8 million for the three months ended March 31, 2020. As of March 31, 2020, we had an accumulated deficit of $332.7 million. We expect these losses to increase as we continue to incur significant research and development and other expenses related to our ongoing operations, seek regulatory approvals for our future product candidates, scale-up manufacturing capabilities, maintain, expand and protect our intellectual property portfolio and hire additional personnel to support the development of our product candidates and to enhance our operational, financial and information management systems. Although we believe that our cash, cash equivalents, and investments will enable us to fund our operating and capital expenditure requirements at least to the end of 2021, we cannot predict the impact of the COVID-19 pandemic on future results of operations and financial condition due to a variety of factors, including the health of our employees, the ability of suppliers to continue to operate and deliver, the ability of Intellia to maintain operations, continued access to transportation resources, any further government and/or public actions taken in response to the pandemic and ultimately the length of the pandemic. We expect to finance our operations through a combination of collaboration revenue, equity or debt financings or other sources, which may include collaborations with third parties. Given the impact of COVID-19 on the U.S. and global financial markets, we may be unable to access further equity or debt financing when needed.

A critical aspect of our strategy is to invest significantly in our technology to improve the efficacy and safety of potential product candidates that we discover. Even if we succeed in discovering, developing and ultimately commercializing one or more of these product candidates, we will continue to incur losses for the foreseeable future relating to our substantial research and development expenditures to develop our technologies. We may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business, such as the COVID-19 pandemic. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue. Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' equity and working capital. Further, the net losses we incur may fluctuate significantly from quarter to quarter and year to year, such that a period-to-period comparison of our results of operations may not be a good indication of our future performance.

We may need to raise substantial additional funding to fund our operations. If we fail to obtain additional financing, we may be unable to complete the development and commercialization of any product candidates.

Our operations have required substantial amounts of cash since inception, and we expect to spend substantial amounts of our financial resources on our discovery programs going forward and future development efforts. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we must complete preclinical development, manufacture (or have manufactured) product candidates and components, and then conduct extensive clinical trials to demonstrate the safety and efficacy of any of our future product candidates in humans. Because preclinical and clinical testing is expensive and can take many years to complete, we may require additional funding to complete these undertakings. Further, if we are able to identify product candidates that are eventually approved, we will require significant additional amounts in order to launch and commercialize our product candidates. For the foreseeable future, we expect to continue to rely on additional financing to achieve our business objectives. Our future capital requirements will depend on and could increase significantly as a result of many factors, including the scope, progress, results and costs of drug discovery, pre-clinical development, laboratory testing and clinical trials for our current or future product candidates, including additional expenses attributable to adjusting our development plans (including any supply related matters).

We will require additional capital for the further development and commercialization of any product candidates and may need to raise additional funds sooner if we choose to expand more rapidly than we presently anticipate or due to other unanticipated factors. Disruptions in the financial markets in general and, more recently, due to the COVID-19 pandemic have made equity and debt financing more difficult to obtain, and may have a material adverse effect on our ability to meet our fundraising needs.

We cannot be certain that additional funding will be available on acceptable terms, or at all. We have no committed source of additional capital and if we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development, manufacture or commercialization of our product candidates or other research and development initiatives. Our collaboration and license agreements may also be terminated if we are unable to meet the payment or other obligations under the agreements. We could be required to seek collaborators for product candidates at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available or relinquish or license on unfavorable terms our rights to product candidates in markets where we otherwise would seek to pursue development or commercialization ourselves.

Any of the above events could significantly harm our business, prospects, financial condition and results of operations and cause the price of our common stock to decline.

Raising additional capital may cause dilution to our stockholders and restrict our operations.

We will need additional capital in the future to continue our planned operations. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our existing stockholders may be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. In addition, the impact on the economic and financial markets of the COVID-19 pandemic has depressed the valuation of public companies, which could require selling equity at lower prices to ensure appropriate capitalization. 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 capital expenditures or declaring dividends.

Unfavorable national or global economic conditions or political developments could adversely affect our business, financial condition or results of operations.

Our results of operations could be adversely affected by general conditions in the national or global economy and financial markets. For example, governmental statements, actions or policies, political unrest and global financial crises can cause extreme volatility and disruptions in the capital and credit markets. A severe or prolonged economic downturn, political unrest or additional global financial crises, including those resulting from the current COVID-19 pandemic, could result in a variety of risks to our business, including weakened demand for our products, if approved, or our ability to raise additional capital when needed on acceptable terms, if at all. 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, further political developments and financial market conditions could adversely impact our business.

Inadequate funding for, or change of priorities at, the FDA and other government agencies in or outside the U.S. 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 business functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA and other similar regulatory agencies to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and authorization to accept the payment of user fees, reallocation of resources to address unique or new healthcare issues (such as the COVID-19 pandemic), and statutory, regulatory, and policy changes. For example, the FDA's average review times at the agency have fluctuated in recent years as a result of these factors in the U.S. In addition, government funding of 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.

Disruptions at the FDA and other similar agencies may also slow the time necessary for new drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, including 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 (or if the regulatory agencies have to reallocate their resources to address unique or new healthcare related matters, such as the COVID-19 pandemic) in the U.S. or another jurisdiction, it could significantly impact the ability of the relevant agency, such as the FDA, to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

Risks Related to Our Reliance on Third Parties

Our technological advancements and any potential for revenue may be derived in part from our collaborations with Novartis and Regeneron, and if either of these collaboration agreements were to be terminated or materially altered, our business, financial condition, results of operations and prospects would be harmed.

In December 2014, we entered into a collaboration agreement with Novartis Institutes for BioMedical Research, Inc. ("Novartis"), as amended (the "2014 Novartis Agreement") regarding the discovery of new CRISPR/Cas9-based therapies principally using chimeric antigen receptor T ("CAR-T") cells and hematopoietic stem cells ("HSCs"). Under the Novartis collaboration agreement, we received a commitment to advance multiple programs. Pursuant to the 2014 Novartis Agreement, we granted Novartis exclusive rights to further develop and commercialize products arising out of the CAR-T cell program during the research term. Regarding HSCs, we are jointly advancing multiple programs with Novartis and have agreed to a process for assigning development and ownership rights, which may enable us to develop our own proprietary HSC pipeline. In December 2018, we expanded our collaboration agreement with Novartis to include discovery of CRISPR/Cas9-based therapies using certain limbal stem cells primarily against selected gene targets by Novartis. The research portion of our agreement with Novartis ended in December 2019, and we cannot guarantee that Novartis will continue to pursue programs that it has selected through our collaboration.

In April 2016, we entered into a collaboration agreement with Regeneron Pharmaceuticals, Inc. ("Regeneron") that includes a product component to research, develop and commercialize CRISPR/Cas-based therapeutic products primarily focused on genome editing in the liver as well as a technology collaboration component, pursuant to which we and Regeneron will engage in research and development activities aimed at discovering and developing novel technologies and improvements to CRISPR/Cas9 technology to enhance our genome editing platform. Pursuant to the Regeneron collaboration agreement, we granted Regeneron exclusive rights to select up to 10 targets, subject to certain restrictions. We retained the rights to solely develop certain indications, other than ATTR, which is subject to a Co-Development and Co-Promotion ("Co/Co") agreement with Regeneron. We also have the right to choose additional liver targets for our own development during the collaboration term, which may be subject to additional Co/Co options by Regeneron. In July 2018, we entered into the first Co/Co agreement directed to ATTR, under which we will be the clinical and commercial lead for ATTR activities. On December 13, 2019, Regeneron informed us that it would exercise its right under the ATTR Co/Co agreement to modify its shares of worldwide developments costs and profits from 50% to 25%, effective six months after its notice. Pursuant to the ATTR Co/Co agreement, Regeneron funded approximately 50% of the program's development costs through 2019. Starting June 2020 and thereafter, Regeneron will share approximately 25% of worldwide development costs and commercial profits for the ATTR program. We continue to lead the development and commercialization of any resulting ATTR products.

Either Novartis or Regeneron may change its strategic focus or pursue alternative technologies in a manner that results in reduced, delayed or no revenue to us. Each of Novartis and Regeneron has a variety of marketed products and product candidates either by itself or under collaboration with other companies, including some of our competitors, and the respective corporate objectives of Novartis or Regeneron may not be consistent with our best interests. Regeneron may change its position regarding its participation and funding of our joint ATTR activities, which may impact our ability to successfully pursue that program. If either of our collaboration partners fails to develop, obtain regulatory approval for or ultimately commercialize any product candidate from the development programs governed by the respective collaboration agreement in the applicable territories, or if either of our collaboration partners breaches or terminates our collaboration with it, our business, financial condition, results of operations and prospects could be harmed. In addition, any material alteration of the collaboration agreements, or dispute or litigation proceedings we may have with either Novartis or Regeneron in the future could delay development programs, create uncertainty as to ownership of or access to intellectual property rights, distract management from other business activities and generate substantial expense.

Our existing and future collaborations will be important to our business. If we are unable to maintain any of these collaborations, or if these collaborations are not successful, our business could be adversely affected.

We have limited capabilities for product discovery and development and do not yet have any capability for sales, marketing or distribution. Accordingly, we have entered, and plan to enter, into collaborations with other companies, including our therapeutic-focused collaboration agreements with Novartis and Regeneron, that we believe can provide such capabilities. These therapeutic-focused collaborations provide us with important technologies and/or funding for our programs and technology, and we expect to receive additional technologies and funding under these and other collaborations in the future. Our existing therapeutic collaborations, and any future collaborations we enter into, may pose a number of risks, including the following:

- collaborators have significant discretion in determining the efforts and resources that they will apply;
- collaborators may not perform their obligations as expected;
- collaborators may dispute the amounts of payments owed;
- collaborators may not pursue development and commercialization of any product candidates that achieve regulatory approval or may elect not to continue or renew development or commercialization programs or license arrangements based on clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors, such as a strategic transaction that may divert resources or create competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- collaborators could develop independently, or with third parties, products that compete directly or indirectly with our products and product candidates if the collaborators believe that the competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;

- product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the development or commercialization of our product candidates;
- collaborators may dispute ownership or rights in jointly developed technologies or intellectual property;
- collaborators may fail to comply with applicable legal and regulatory requirements regarding the development, manufacture, sale, distribution or marketing of a product candidate or product;
- collaborators with sales, marketing, manufacturing and distribution rights to one or more of our product candidates that achieve regulatory approval may not commit sufficient resources to the sale, marketing, manufacturing and distribution of such product or products;
- disagreements with collaborators, including disagreements over proprietary rights, contract interpretation, payment obligations or the preferred course of discovery, development, sales or marketing, might cause delays or terminations of the research, development or commercialization of product candidates, might lead to additional and burdensome responsibilities for us with respect to product candidates, or might result in litigation or arbitration, any of which would be time-consuming and expensive;
- collaborators may not properly maintain or defend their or our relevant intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation and liability;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- if a collaborator of ours is involved in a business combination or cessation, the collaborator might deemphasize or terminate the development or commercialization of any product candidate licensed to it by us; and
- collaborations may be terminated by the collaborator, and, if terminated, we could be required to raise additional capital to pursue further development or commercialization of the applicable product candidates, or potentially lose access to the collaborator's intellectual property.

If our therapeutic collaborations do not result in the successful discovery, development and commercialization of products or if one of our collaborators terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under the collaboration. If we do not receive the funding we expect under these agreements, our development and commercialization of our technology and product candidates could be delayed and we may need additional resources to develop product candidates and our technology. All of the risks relating to product discovery, development, regulatory approval and commercialization described in this report also apply to the activities of our therapeutic collaborators.

Additionally, if one of our collaborators terminates its agreement with us, we may find it more difficult to attract new collaborators and our perception in the business and financial communities could be adversely affected.

For some of our programs, we may in the future determine to collaborate with pharmaceutical and biotechnology companies for discovery, development and potential commercialization of therapeutic products. We face significant competition in seeking appropriate collaborators because, for example, third-parties have comparable rights to the CRISPR/Cas9 system or similar genome editing technologies. Our ability to reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. If we are unable to reach agreements with suitable collaborators on a timely basis, on acceptable terms, or at all, we may have to curtail discovery efforts or the development of a product candidate, reduce or delay its development program or one or more of our other development programs, delay its potential manufacture or commercialization, or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to fund and undertake discovery, development, manufacturing or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we fail to enter into collaborations and do not have sufficient funds or expertise to undertake the necessary discovery, development, manufacturing and commercialization activities, we may not be able to further develop our product candidates, manufacture the product candidates, bring them to market or continue to develop our technology and our business may be materially and adversely affected.

We expect to rely in part on third parties to manufacture our clinical product supplies, and we intend to rely on third parties for at least a portion of the manufacturing process of our product candidates, if approved. Our business could be harmed if the third parties fail to provide us with sufficient quantities of product inputs or fail to do so at acceptable quality levels or prices or fail to meet legal and regulatory requirements.

We do not currently own any facility that may be used as our clinical-scale manufacturing and processing facility and must rely on outside vendors, such as CMOs, to manufacture supplies and process our product candidates. We have only recently begun to manufacture and process product candidate components on a clinical scale and may not be able to successfully complete or continue to do so for our product candidates. We will make changes as we work to optimize the manufacturing process, and we cannot be sure that even minor changes in the process will result in therapies that are safe, potent, pure or effective.

The facilities used by our contract manufacturers to manufacture our product candidates must be inspected and approved by, as applicable, the FDA or other foreign regulatory agencies pursuant to inspections that will be conducted after we submit an application to the FDA or other relevant foreign regulatory agencies. We will be dependent on our contract manufacturing partners to manufacture adequate supply of our product candidates and components in a timely manner and in accordance with our specification. We also will depend on these entities for compliance with legal and regulatory requirements for manufacture, including current good manufacturing practice ("cGMP"), and in certain cases, current good tissue practice ("cGTP"), requirements of our product candidates. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of, as applicable, the FDA or other regulatory authorities, they will not be able to secure and/or maintain regulatory approval for their 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, particularly as we increase the scale of our manufactured material. If the FDA or a comparable foreign regulatory authority, as applicable, does not approve these facilities for the manufacture of our product candidates or if it withdraws any such approval in the future, we may need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for or market our product candidates, if approved.

Events such as the COVID-19 pandemic could adversely impact the ability of our vendors, including CMOs, to manufacture supplies, process and deliver our product candidates, or to otherwise meet our requirements or those of the applicable regulatory agencies. Additionally, these events could also impact the regulatory agencies' ability to inspect and approve our vendors, including CMOs, within our currently expected timeframe.

We will rely on third parties to conduct our clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines or comply with legal and regulatory requirements, we may not be able to obtain regulatory approval of or commercialize any potential product candidates.

We will depend upon third parties, including independent investigators, to conduct our clinical trials under agreements with universities, medical institutions, CROs, strategic partners and others. We expect to have to negotiate budgets and contracts with CROs and trial sites, which may result in delays to our development timelines and increased costs.

We will rely heavily on third parties over the course of our clinical trials, and, as a result, will have limited control over the clinical investigators and limited visibility into their day-to-day activities, including with respect to their compliance with the approved clinical protocol and other legal, regulatory and scientific standards. Nevertheless, we are responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol and legal, regulatory and scientific standards, and our reliance on third parties does not relieve us of our legal responsibilities. We and these third parties are required to comply with good clinical practice ("GCP") requirements, which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities for product candidates in clinical development. Regulatory authorities enforce these GCP requirements through periodic inspections of trial sponsors, clinical investigators and trial sites. If we or any of these third parties fail to comply with applicable GCP requirements, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to suspend or terminate these trials or perform additional preclinical studies or clinical trials before approving our marketing applications. We cannot be certain that, upon inspection, such regulatory authorities will determine that any of our clinical trials comply with the GCP requirements. In addition, our clinical trials must be conducted with product produced under cGMP, and in certain cases, cGTP, requirements and may require a large number of test patients.

Our failure or any failure by these third parties to comply with these requirements or to recruit a sufficient number of patients may require us to repeat clinical trials, which would delay the regulatory approval process. Moreover, our business may be implicated if any of these third parties violates applicable federal, state or local, as well as foreign, laws and regulations, such as the fraud and abuse or false claims laws and regulations or privacy and security laws.

Any third parties conducting our future clinical trials will not be our employees and, except for remedies that may be available to us under our agreements with such third parties, we cannot control whether they devote sufficient time and resources to our ongoing preclinical, clinical, and nonclinical programs. These third parties may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other product development activities, which could affect their performance on our behalf. If these third parties do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to complete development of, obtain regulatory approval of or successfully commercialize our product candidates. In addition, the COVID-19 pandemic or similar events could divert healthcare resources away from our clinical trial sites to focus on pandemic concerns, including adversely impacting the availability of necessary materials and clinical trial personnel. As a result, our financial results and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenue could be delayed.

If any of our relationships with these third-party CROs or others terminate, we may not be able to enter into arrangements with alternative CROs or other third parties or to do so on commercially reasonable terms. Switching or adding additional CROs involves additional cost and requires management time and focus. In addition, the transition to a new CRO may result in delays, which can materially impact our ability to meet our desired clinical development timelines. Though we carefully manage our relationships with our CROs, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition and prospects.

Risks Related to Employee Matters and Managing Growth

We expect to expand our research, development, manufacturing, clinical and regulatory capabilities, and, as a result, we may encounter difficulties in hiring capable personnel and otherwise managing our growth, which could disrupt our operations.

We expect to experience growth in the number of our employees and the scope of our operations, including the areas of technology research, product development and manufacturing, clinical, regulatory and quality affairs and, if any product candidates are submitted for or receive marketing approval, sales, marketing and distribution. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited financial resources, the significant competition for qualified employees in our market and industry, and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to recruit and train additional qualified personnel or to otherwise effectively manage the expansion of our operations. The expansion of our operations may lead to significant costs, and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business and development plans or disrupt our operations.

Our future success depends on our ability to retain key executives and to attract, retain and motivate qualified personnel.

We are highly dependent on the research and development, clinical, legal, financial and business development expertise of John M. Leonard, M.D., our President and Chief Executive Officer, Glenn Goddard, our Executive Vice President and Chief Financial Officer, José E. Rivera, our Executive Vice President, General Counsel, Andrew Schiermeier, our Executive Vice President and Chief Operating Officer and Laura Sepp-Lorenzino, our Executive Vice President and Chief Scientific Officer as well as the other principal members of our management, scientific and clinical teams. Although we have entered into employment arrangements with our executive officers, each of them may terminate their employment with us at any time. We do not maintain “key person” insurance for any of our executives or other employees.

Recruiting and retaining qualified scientific, clinical, manufacturing and sales and marketing personnel will also be important for our success. The loss of the services of our executive officers or other key employees could impede the achievement of our 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 of and commercialize products using our technology. Competition to hire from this limited pool 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, universities and research institutions for similar personnel. The market for qualified personnel in the biotechnology space generally, and genome editing and gene therapy fields in particular, in and around the Cambridge, Massachusetts area is especially competitive. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategies. 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. Further, some of the qualified personnel that we hire and recruit are not U.S. citizens, and there is uncertainty with regard to their future employment status due to the current U.S. administration's announced intention of modifying the legal framework for non-U.S. citizens to be employed in the U.S. Finally, events such as the COVID-19 pandemic and government restrictions and directives, including immigration policy changes, could adversely impact our ability to recruit, retain or replace key employees necessary to achieve our objectives and strategic imperatives, If we are unable to continue to attract and retain high quality personnel, our ability to pursue our growth strategy will be limited.

Risks Related to Government Regulation

While the regulatory framework for approval of gene therapy including genome editing products exists, the limited specific guidance and precedent for genome-edited products makes the regulatory approval process potentially more unpredictable and we may experience significant delays in the clinical development and regulatory approval, if any, of our product candidates.

The research, testing, manufacturing, labeling, approval, selling, import, export, marketing and distribution of drug products, including genome editing therapeutics and engineered cell therapies, are subject to extensive regulation by the FDA in the U.S. and other regulatory authorities in other jurisdictions. For example, we are not permitted to market any drug or biological product, including *in vivo* products or engineered cell therapies, until we receive regulatory approval from the relevant regulatory agency, such as the FDA in the U.S. We have not previously submitted a BLA to the FDA, or similar approval filings to comparable foreign authorities. A BLA or a MAA must include extensive preclinical and clinical data and supporting information to establish that the product candidate is safe and effective or, for biological products, safe, pure and potent for each desired indication. The application must also include significant information regarding the chemistry, manufacturing and controls for the product, and the manufacturing facilities must complete a successful pre-approval inspection by the FDA, or otherwise applicable foreign authority, prior to the approval or licensure of the product. We expect the novel nature of our product candidates to create further challenges in obtaining regulatory approval. For example, in the U.S., the FDA has not approved any nuclease edited cell therapies for human therapeutic use. The FDA may also require a panel of experts, referred to as an Advisory Committee, to deliberate on the adequacy of the safety and efficacy data to support approval. The opinion of the Advisory Committee, although not binding, may have a significant impact on our ability to obtain approval of any product candidates that we develop based on the completed clinical trials. Moreover, while we are not aware of any specific genetic or biomarker diagnostic tests for which regulatory approval would be necessary in order to advance any of our product candidates to clinical trials or potential commercialization, in the future regulatory agencies may require the development and approval of such tests. Accordingly, the regulatory approval pathway for such product candidates may be uncertain, complex, expensive and lengthy, as well as different in each jurisdiction, and approval may not be obtained in any, some or all jurisdictions.

In December 2018, the World Health Organization ("WHO") established the Expert Advisory Committee on Developing Global Standards for Governance and Oversight of Human Genome Editing. While the standards are expected to focus primarily on germline modifications, the guidelines could impact somatic cell editing research programs.

In August 2019, the WHO Expert Advisory Committee recommended initiating the first phase of a new global registry to track research on human genome editing. Accepting this recommendation, the WHO announced plans for an initial phase of the registry using the International Clinical Trials Registry Platform ("ICTRP"). This phase will include worldwide registries for both somatic cell editing and germline editing clinical trials. Registration of these clinical trials in the WHO's registry is voluntary.

In addition, clinical trials can be delayed or terminated for a variety of reasons, including delays or failures related to:

- obtaining and maintaining regulatory authorization to conduct a trial, if applicable;
- the availability of financial resources to begin and complete the planned trials;
- reaching agreement on acceptable terms with prospective CROs, clinical trial sites and clinical investigators, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- obtaining approval at each clinical trial site by an independent IRB or relevant ethics committee;
- recruiting suitable patients to participate in a trial in a timely manner;
- having patients complete a trial or return for post-treatment follow-up;
- clinical trial sites deviating from trial protocol, not complying with GCP requirements or dropping out of a trial;
- addressing any patient safety concerns that arise during the course of a trial;
- addressing any conflicts with new or existing laws or regulations;
- adding new clinical trial sites; or
- manufacturing qualified materials under cGMP regulations for use in clinical trials.

Patient enrollment is a significant factor in the timing of clinical trials and is affected by many factors. Further, a clinical trial may be suspended or terminated by us, the IRBs for the institutions in which such trials are being conducted, another ethics committee, the DSMB for such trial or the FDA or other regulatory authorities 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 or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues 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. If we experience termination of, or delays in the completion of, any clinical trial of product candidates, the commercial prospects for our product candidates will be harmed, and our ability to generate product revenue will be impaired. In addition, any delays in completing any clinical trials will increase our costs, slow down our product development and approval process and jeopardize our ability to commence product sales and generate revenue.

Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not mean that we will be successful in obtaining regulatory approval of product candidates in other jurisdictions.

Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not guarantee that we will be able to obtain or maintain regulatory approval in any other jurisdiction, but a failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory approval process in others. For example, even if the FDA grants marketing approval of a product candidate, comparable regulatory authorities in foreign jurisdictions, must also authorize the manufacturing, marketing and sale of the product candidate in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from those in the U.S., including additional preclinical studies or clinical trials as clinical studies conducted in one jurisdiction may not be accepted by regulatory authorities in other jurisdictions. In many jurisdictions outside the U.S., 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 are allowed to charge for our products is also subject to approval or to other legal restrictions.

Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries. If we fail to comply with the regulatory requirements in international markets or to receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed.

Even if we receive regulatory approval of any product candidates or therapies, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our product candidates.

If any of our product candidates are approved, they will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, distribution, storage, advertising, promotion, sampling, record-keeping, conduct of post-marketing studies and submission of safety and efficacy data, and other post-market information, including both federal and state requirements in the U.S. and requirements of comparable foreign regulatory authorities. In addition, we will be subject to continued compliance with cGMP and GCP, and in certain cases, cGTP, requirements for any clinical trials that we conduct post-approval.

Manufacturers and manufacturers' facilities are required to comply with extensive FDA and comparable foreign regulatory authority requirements, as applicable, including ensuring that quality control and manufacturing procedures conform to cGMP and, in certain cases, cGTP requirements. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance with cGMP and adherence to commitments made in any BLA, other marketing applications, and previous responses to inspection observations. 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.

Any regulatory approvals that we receive for our product candidates may be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase IV clinical trials and surveillance to monitor the safety and efficacy of the product candidate. For example, the FDA may also require a REMS program as a condition of approval of our product candidates, which could entail requirements for long-term patient follow-up, a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. In addition, if the FDA or a comparable foreign regulatory authority approves our product candidates, we will have to comply with their respective legal or regulatory requirements including submissions of safety and other post-marketing information and reports and registration.

The FDA may seek to impose consent decrees or withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. The regulatory agencies in other jurisdictions could take similar action for noncompliance with their respective requirements and standards. Later discovery of previously unknown problems with our product candidates, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or 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 studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of our products, withdrawal of the product from the market or voluntary or mandatory product recalls;
- fines, warning letters or holds on clinical trials;
- refusal by the FDA or the relevant regulatory agency to approve pending applications or supplements to approved applications filed by us or suspension or revocation of license approvals;
- product seizure or detention or refusal to permit the import or export of our product candidates; and
- 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 U.S. market, and the relevant foreign regulatory agencies do the same in their respective jurisdictions. Products may be promoted only for the approved indications and in accordance with the provisions of the approved label. 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.

The policies of the FDA and of other regulatory authorities may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the U.S. or abroad. For example, in the U.S., certain policies of the current or future U.S. administration may impact our business and industry. Namely, the current administration has taken, or may take, 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 and issuance of guidance. It is difficult to predict how any of these rules or requirements will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. 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. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory and legal compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability.

Healthcare cost control initiatives, including healthcare legislative and regulatory reform measures, may have a material adverse effect on our business and results of operations.

The U.S. 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 product candidates or any future product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any product candidates for which we obtain marketing approval. Changes in regulations, statutes or the interpretation of existing regulations could impact our business in the future by requiring, for example: (i) changes to our manufacturing arrangements; (ii) additions or modifications to product labeling; (iii) additional regulation or restrictions on pricing and reimbursement; (iv) changes to private or governmental insurance practices; (v) the recall or discontinuation of our products; or (vi) additional record-keeping requirements. If any such changes were to be imposed, they could adversely affect the operation of our business.

Third-party payors, whether domestic or foreign, or governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs. In the U.S. and certain foreign jurisdictions, there have been, and are expected to continue to be, a number of legislative and regulatory changes to the health care system that could impact our ability to sell our products profitably. In the U.S., however, significant uncertainty exists regarding the provision and financing of health care because the current administration and federal legislators have publicly declared their intention to significantly modify the current legal and regulatory framework for the health care system but details have not been agreed upon or disclosed.

Current legislation at the U.S. federal and state levels seeks to reduce healthcare costs and improve the quality of healthcare. In March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the "Affordable Care Act", or "ACA"), was enacted, which substantially changed the way health care is financed by both governmental and private insurers, and significantly impacted the U.S. pharmaceutical and biotechnology industry. The Affordable Care Act, among other things, subjects biologic 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 most manufacturers under the Medicaid Drug Rebate Program, extends the Medicaid Drug Rebate program to utilization of prescriptions of individuals enrolled in Medicaid managed care organizations, subjects manufacturers to new annual fees and taxes for certain branded prescription drugs and biologic agents, creates a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% (increased to 70% pursuant to the Bipartisan Budget Act of 2018, effective as of January 1, 2019) point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D, and provides incentives to programs that increase the federal government's comparative effectiveness research. At this time, the full effect that the Affordable Care Act would have on our business remains unclear.

Some of the provisions of the Affordable Care Act have yet to be implemented, and there have been judicial and Congressional challenges to certain aspects of the Affordable Care Act, as well as recent efforts by the current administration to repeal or replace certain aspects of the Affordable Care Act. Since January 2017, the U.S. president has signed two executive orders and other directives designed to delay the implementation of certain provisions of the Affordable Care Act. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part 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. Further, significant uncertainty exists regarding the future scope and effect of the Affordable Care Act because the current administration and federal legislators have publicly declared their intention to significantly modify or repeal the legislation, and there are conflicting judicial decisions regarding the constitutionality of the law which at least one federal court has ruled is unconstitutional. We cannot predict the ultimate form or timing of any modification to, or repeal of, the Affordable Care Act or the effect that such modification or repeal would have on our business. Public announcements by the U.S. administration and members of the U.S. Congress have emphasized the administration's significant interest in pursuing healthcare reform. Such reform efforts and any resulting changes to the Affordable Care Act, or related regulations and laws, could impact our ability to sell our products profitably.

Other legislative changes relevant to the health care system have been adopted in the U.S. since the Affordable Care Act was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect in April 2013, and, due to subsequent legislative amendments, will remain in effect through 2029 unless additional Congressional action is taken. 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, cancer centers and other treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. In December 2017, the U.S. president signed into law the Tax Cuts and Jobs Act ("TCJA") which, among other things, repealed the tax-based shared responsibility payment imposed by the Affordable Care Act on certain individuals who fail to maintain qualifying health coverage for all or part of a year (the "individual mandate"), effective January 1, 2019. 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 inseverable feature of the Affordable Care Act, and therefore, because it was repealed as part of the TCJA, the remaining provisions of the Affordable Care Act are invalid as well. The current Administration and CMS have both stated that the ruling will have no immediate effect, and on December 18, 2019, the Fifth Circuit U.S. Court of Appeals held that the individual mandate is unconstitutional, and remanded the case to the lower court to reconsider its earlier invalidation of the full Affordable Care Act. The State of California and the other plaintiffs in this case asked the U.S. Supreme Court for authorization to appeal the decision of the Fifth Circuit. On March 2, 2020, the United States Supreme Court granted the petitions for writs of certiorari to review this case, and allotted one hour for oral arguments, which are expected to occur in the fall of this year. 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. These laws may result in additional reductions in Medicare, Medicaid and other healthcare funding, or insured patients generally, which could have a material adverse effect on our future, potential customers and, accordingly, our financial operations.

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. As indicated previously, significant uncertainty exists regarding the future scope and effect of current health care legislation and regulations because the current administration and federal legislators have publicly declared their intention to significantly modify or repeal the current legislative framework. We cannot predict the initiatives that may be adopted in the future, any of which could limit or modify the amounts that foreign, federal and state governments as well as private payors, including patients, will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

The continuing efforts of governments, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare and/or impose price controls could harm our business, financial conditions and prospects and may adversely affect:

- the demand for or utilization of our product candidates, if we obtain regulatory approval;
- our ability to set a price that we believe is fair for our products;

- our ability to generate revenue and achieve or maintain profitability;
- the level of taxes, fees and rebates that we are required to pay; and
- the availability of capital.

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 product candidates, if approved.

Our employees, independent contractors, clinical investigators, CMOs, CROs, consultants, commercial partners and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have a material adverse effect on our business.

We are exposed to the risk of non-compliance, fraud, misconduct or other illegal activity by our employees, independent contractors, clinical investigators, CMOs, CROs, consultants, commercial partners and vendors. Misconduct by these parties could include intentional, reckless and/or negligent conduct that fails to: comply with federal and state laws and those of other applicable jurisdictions; provide true, complete and accurate information to the FDA and other similar foreign regulatory bodies; comply with manufacturing standards; comply with federal and state data privacy, security, fraud and abuse and other healthcare laws and regulations in the U.S. and similar foreign privacy or fraudulent misconduct laws; or report financial information or data accurately; or disclose unauthorized activities to us. If we obtain FDA approval of any of our product candidates and begin commercializing those products in the U.S., our potential exposure under such laws will increase significantly, and our costs associated with compliance with such laws are also likely to increase. These laws may impact, among other things, our current activities with clinical investigators and research patients, as well as proposed and future sales, marketing and education programs. In particular, the promotion, sales and marketing of healthcare products and services, as well as certain business arrangements in the healthcare industry, are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, including promotion and marketing of off-label uses of our products, 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 clinical trials or creating fraudulent data in our preclinical studies or 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 other 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 comply with these laws or regulations. Additionally, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. 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.

We may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws, physician payment transparency laws, health information privacy and security laws and anti-corruption laws. If we are unable to comply, or have not fully complied, with such laws or their relevant foreign counterparts, we could face substantial penalties.

If we obtain FDA approval for any of our product candidates and begin commercializing those products in the U.S., our operations may be directly, or indirectly through our future, potential customers and third-party payors, subject to various federal and state fraud and abuse laws, including, without limitation, the federal Anti-Kickback Statute, the federal False Claims Act (“FCA”), and data privacy and physician sunshine laws and regulations. These laws or their relevant foreign counterparts may impact, among other things, our proposed sales, marketing, and education programs and our relationships with healthcare providers, physicians and other parties through which we market, sell and distribute our products for which we obtain marketing approval. In addition, we may be subject to patient privacy regulation by the federal government and the states in the U.S. as well as other jurisdictions. The laws that may affect our ability to operate include:

- the federal Anti-Kickback Statute, which prohibits, among other things, individuals or entities from knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or certain rebates), 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, arrangement for or recommendation of the purchase, lease, order, arrangement for 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 knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, the Affordable Care Act provides 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 federal FCA. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution. Violators are subject to civil and criminal fines and penalties, as well as imprisonment and exclusion from government healthcare programs;
- federal civil and criminal false claims laws, including, without limitation, the federal FCA, and civil monetary penalty laws which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment or approval from the federal government, including Medicare, Medicaid and other government payors, that are false or fraudulent or knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim or to avoid, decrease or conceal an obligation to pay money 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 by, for example, promoting a product off-label. The FCA also permits a private individual acting as a "whistleblower" to bring civil whistleblower or *qui tam* actions against individuals (including biopharmaceutical manufacturers and sellers) on behalf of the federal government alleging violations of the FCA and to share in any monetary recovery. These laws impose criminal and civil penalties on violators;
- the federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA") and its implementing regulations, which impose criminal and civil liability for 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. 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 violations can lead to civil and criminal liability;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 ("HITECH"), and their respective implementing regulations, 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 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. In addition, state and non-U.S. laws govern the privacy and security of health and other personal information in certain circumstances, many of which differ from each other in significant ways and may not have the same effective requirements, thus complicating compliance efforts to comply with their respective provisions;

- the U.S. federal physician payment transparency requirements, sometimes referred to as the "Physician Payments Sunshine Act," created under the Affordable Care Act, and their implementing regulations, which require manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to the CMS, information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), other healthcare providers, and teaching hospitals, as well as ownership and investment interests held by physicians, other healthcare providers, and their immediate family members. Failure to submit required information may result in civil monetary penalties for all payments, transfers of value or ownership or investment interests that are not timely, accurately, and completely reported in an annual submission. Effective January 1, 2022, the U.S. federal physician transparency reporting requirements will extend to include transfers of value made to certain non-physician providers such as physician assistants and nurse practitioners;
- the Foreign Corrupt Practices Act ("FCPA") and other laws which prohibit improper payments or offers of payments to foreign governments and their officials and political parties by U.S. persons and issuers as defined by the statute for the purpose of obtaining or retaining business. In the UK, for example, the UK Bribery Act 2010 prohibits the giving of financial or other advantages to encourage persons to perform their functions improperly, and does not include an exemption for facilitation payments;
- the Federal Food, Drug and Cosmetic Act, which prohibits, among other things, the commercialization of adulterated or misbranded drugs and medical devices and the Public Health Service Act, which prohibits, among other things, the commercialization of biological products unless a biologics license is in effect; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and may be broader in scope than their federal equivalents; state and foreign 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 or otherwise restrict payments that may be made to healthcare providers; state and foreign laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; 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 often are not preempted by HIPAA, thus complicating compliance efforts.

The distribution of pharmaceutical products is subject to additional requirements and regulations, including extensive record-keeping, licensing, storage and security requirements intended to prevent the unauthorized sale of pharmaceutical products.

Because of the breadth of these laws and the limited statutory exceptions and safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws.

The scope and enforcement of each of these laws is uncertain and subject to rapid change in the current environment of healthcare reform, especially in light of the lack of applicable precedent and regulations. Federal and state enforcement bodies have recently increased their scrutiny of interactions between healthcare companies and healthcare providers, which has led to a number of investigations, prosecutions, convictions and settlements in the healthcare industry. Ensuring business arrangements comply with applicable healthcare laws, as well as responding to possible investigations by government authorities, can be time- and resource-consuming and can divert a company's attention from the business.

As of May 25, 2018, the General Data Protection Regulation ("GDPR") regulates the collection and use of personal data in the EU. The GDPR covers any business, regardless of its location, that provides goods or services to residents in the EU and, thus, could incorporate our activities in EU member states. The GDPR imposes strict requirements on controllers and processors of personal data, including special protections for "sensitive information," which includes health and genetic information of individuals residing in the EU. GDPR grants individuals the opportunity to object to the processing of their personal information, allows them to request deletion of personal information in certain circumstances, and provides the individual with an express right to seek legal remedies in the event the individual believes his or her rights have been violated. Further, the GDPR imposes strict rules on the transfer of personal data out of the EU to regions that have not been deemed to offer "adequate" privacy protections, such as the U.S. currently. Failure to comply with the requirements of the GDPR and the related national data protection laws of the EU member states, which may deviate slightly from the GDPR, may result in warning letters, mandatory audits and financial penalties, including fines of up to 4% of global revenues, or 20,000,000 Euro, whichever is greater. As a result of the implementation of the GDPR, we may be required to put in place additional mechanisms ensuring compliance with the new data protection rules.

There is significant uncertainty related to the manner in which data protection authorities will seek to enforce compliance with GDPR. For example, it is unclear whether the authorities will conduct random audits of companies doing business in the EU, or act solely after complaints are filed claiming a violation of the GDPR. The lack of compliance standards and precedent, enforcement uncertainty and the costs associated with ensuring GDPR compliance may be onerous and adversely affect our business, financial condition, results of operations and prospects. Further, the UK's exit from the EU, often referred to as Brexit, has created uncertainty with regard to data protection regulation in the UK. In particular, it is unclear how data transfers to and from the UK will be regulated, and what other aspects of EU privacy laws will be adopted, rejected or modified by the UK.

California recently enacted the California Consumer Privacy Act ("CCPA"), which creates new individual privacy rights for California consumers (as defined in the law) and places increased privacy and security obligations on entities handling personal data of consumers or households. The CCPA will require covered companies to provide certain disclosures to consumers about its data collection, use and sharing practices, and to provide affected California residents with ways to opt-out of certain sales or transfers of personal information. The CCPA went into effect on January 1, 2020, and the California Attorney General will commence enforcement actions against violators beginning July 1, 2020. As currently written, the CCPA may impact our business activities. The California Attorney General has proposed draft regulations, which have not been finalized to date, that may further impact our business activities if they are adopted. The uncertainty surrounding the implementation of CCPA exemplifies the vulnerability of our business to the evolving regulatory environment related to personal data and protected health information.

The increasingly global nature of our business operations subjects us to domestic and foreign anti-bribery and anti-corruption laws and regulations, such as the FCPA. Activities conducted in jurisdictions outside of the U.S. create the risk of unauthorized payments or offers of payments that are prohibited under the FCPA or comparable laws and regulations. It is our policy to implement safeguards to discourage these practices by our employees. However, these safeguards may ultimately prove ineffective, and our employees, consultants, and agents may engage in conduct for which we might be held responsible. Violations of the FCPA may result in severe criminal or civil sanctions, and we may be subject to other liabilities, which could negatively affect our business, operating results and financial condition.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations as well as other domestic and foreign legal requirements will 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, individual imprisonment, possible exclusion from participation in Medicare, Medicaid and other U.S. federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment or restructuring of our operations, as well as additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws, any of which could adversely affect our ability to operate our business and our results of operations. Any action for violation of these laws, even if successfully defended, could cause a pharmaceutical manufacturer to incur significant legal expenses and divert management's attention from the operation of the business. If any of the physicians or other healthcare providers or entities with whom we expect to do business is found not to be in compliance with applicable laws, that person or entity may be subject

to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs. Prohibitions or restrictions on sales or withdrawal of future marketed products could materially affect business in an adverse way. In addition, the approval and commercialization of any of our product candidates outside the U.S. will also likely subject us to foreign equivalents of the healthcare laws mentioned above, among other foreign laws.

Business interruptions resulting from the COVID-19 outbreak or similar public health crises could cause a disruption of the development of our product candidates and adversely impact our business.

Public health crises such as pandemics or similar outbreaks could adversely impact our business. In December 2019, a novel strain of a virus named SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2), or coronavirus, which causes COVID-19, surfaced in Wuhan, China and has reached multiple other regions and countries, including Cambridge, Massachusetts where our primary office and laboratory space is located. The COVID-19 pandemic is evolving, and to date has led to the implementation of various responses, including government-imposed quarantines, travel restrictions and other public health safety measures, as well as reported adverse impacts on healthcare resources, facilities and providers, in Massachusetts, across the U.S. and in other countries. The extent to which COVID-19 impacts our operations or those of our third-party partners will depend on future developments, which are highly uncertain and cannot be predicted with confidence, including the duration of the outbreak, additional or modified government actions, new information that will emerge concerning the severity and impact of COVID-19 and the actions to contain COVID-19 or address its impact in the short and long term, among others.

Additionally, timely completion of preclinical activities and initiation of planned clinical trials is dependent upon the availability of, for example, preclinical and clinical trial sites, researchers and investigators, regulatory agency personnel, and materials, which may be adversely affected by global health matters, such as pandemics. We plan to conduct preclinical activities and clinical trials for our investigational drug product candidates in geographies which are currently being affected by COVID-19.

Further, in response to the pandemic and in accordance with direction from state and local government authorities, we have restricted and may continue to restrict access to our facilities mostly to personnel and third parties who must perform critical activities that must be completed on-site, limited the number of such personnel that can be present at our facilities at any one time, and requested that most of our personnel work remotely. In the event that governmental authorities were to further modify current restrictions, our employees conducting research and development or manufacturing activities may not be able to access our laboratory or manufacturing space, and our core activities may be significantly limited or curtailed, possibly for an extended period of time.

Some factors from the COVID-19 pandemic that could delay or otherwise adversely affect the completion of our preclinical activities and the planned initiation of our clinical trials for our investigational drug product candidates, as well as our business generally, include:

- the potential diversion of healthcare resources away from the conduct of preclinical activities and clinical trials to focus on pandemic concerns, including the availability of necessary materials and the attention of physicians serving as our clinical trial investigators, hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our prospective clinical trials;
- limitations on travel that could interrupt key preclinical activities and trial activities, such as clinical trial site initiations and monitoring, domestic and international travel by employees, contractors or patients to clinical trial sites, including any government-imposed travel restrictions or quarantines that will impact the ability or willingness of patients, employees or contractors to travel to our research, manufacturing and clinical trial sites or secure visas or entry permissions, any of which could delay or adversely impact the conduct or progress of our prospective clinical trials;
- interruption or delays in the operations of the FDA and comparable foreign regulatory agencies, which may impact review, inspection, clearance and approval timelines;
- interruption in global shipping affecting the transport of clinical trial materials, such as patient samples, investigational drug product candidates and conditioning drugs and other supplies used in our prospective clinical trials;

- interruption of, or delays in receiving, supplies of our investigational drug product from our CMOs due to staffing shortages, production slowdowns or stoppages and disruptions in delivery systems;
- limitations on our business operations by local, state, or the federal government that could impact our ability to conduct our preclinical or clinical activities, including completing our IND-enabling studies or our ability to select future development candidates;
- business disruptions caused by potential workplace, laboratory and office closures and an increased reliance on employees working from home, disruptions to or delays in ongoing laboratory experiments and operations, staffing shortages, travel limitations, or communication or mass transit disruptions, any of which could adversely impact our business operations or delay necessary interactions with local regulators, ethics committees, manufacturing sites, research or clinical trial sites and other important agencies and contractors;
- business disruptions or cybersecurity risks associated with a substantial portion of our workforce working from home for extended periods of time; and
- the impact on the valuation of our marketable securities and other financial assets due to market volatility.

These and other factors arising from COVID-19 could worsen in countries that are already afflicted with coronavirus or could continue to spread to additional countries, 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 our common stock and other biopharmaceutical companies have been highly volatile as a result of the COVID-19 pandemic. As a result, 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 planned 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 other actions to contain the outbreak or address its impact, such as social distancing and quarantines or lock-downs in the U.S. and other countries, business closures or business disruptions and the effectiveness of actions taken in the U.S. and other countries to contain and address the disease.

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 U.S., 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., both state and national, and international data protection laws and regulations 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.

In the event we conduct clinical trials in the UK or European Economic Area ("EEA"), we may be subject to additional privacy laws. For example, the GDPR became effective on May 25, 2018 and deals with the processing of personal data and on the free movement of such data. The GDPR imposes a broad range of strict requirements on companies subject to the GDPR, including requirements relating to having legal bases for processing personal information relating to identifiable individuals and transferring such information outside the EEA, including to the U.S., providing details to those individuals regarding the processing of their personal information, keeping personal information secure, having data processing agreements with third parties who process personal information, responding to individuals' requests to exercise their rights in respect of their personal information, reporting security breaches involving personal data to the competent national data protection authority and affected individuals, appointing data protection officers, conducting data protection impact assessments, and record-keeping. The GDPR increases substantially the penalties to which we could be subject in the event of any non-compliance, including fines of up to 10,000,000 Euros or up to 2% of our total worldwide annual turnover for certain comparatively minor offenses, or up to 20,000,000 Euros or up to 4% of our total worldwide annual turnover for more serious offenses. Given the new law, we face uncertainty as to the exact interpretation of the new requirements and we may be unsuccessful in implementing all measures required by data protection authorities or courts in interpretation of the new law.

In particular, national laws of member states of the EU are in the process of being adapted to the requirements under the GDPR, thereby implementing national laws which may partially deviate from the GDPR and impose different obligations from country to country, so that we do not expect to operate in a uniform legal landscape in the EU. Also, as it relates to processing and transfer of genetic data, the GDPR specifically allows national laws to impose additional and more specific requirements or restrictions, and European laws have historically differed quite substantially in this field, leading to additional uncertainty.

In the event we conduct clinical trials in the UK or EEA, we must also ensure that we maintain adequate safeguards to enable the transfer of personal data outside of the UK or EEA, as applicable, in particular to the U.S., in compliance with the relevant national or Pan-European data protection laws. We expect that we will continue to face uncertainty as to whether our efforts to comply with our obligations under European privacy laws will be sufficient. If we are investigated by a European data protection authority, we may face fines and other penalties. Any such investigation or charges by European data protection authorities could have a negative effect on our existing business and on our ability to attract and retain new clients or pharmaceutical partners. We may also experience hesitancy, reluctance, or refusal by European or multi-national clients or pharmaceutical partners to continue to use our products and solutions due to the potential risk exposure as a result of the current (and, in particular, future) data protection obligations imposed on them by certain data protection authorities in interpretation of current law, including the GDPR. Such clients or pharmaceutical partners may also view any alternative approaches to compliance as being too costly, too burdensome, too legally uncertain, or otherwise objectionable and therefore decide not to do business with us. Any of the foregoing could materially harm our business, prospects, financial condition and results of operations.

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

We are subject to numerous federal, state and local environmental, health and safety, and laboratory animal welfare laws and regulations. These legal requirements include those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes as well as those which regulate the care and use of animals in research. Our operations will involve research using research animals and the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also may produce hazardous waste products. We generally anticipate contracting with third parties for the disposal of these materials and wastes. We will not be able to eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from any use by us 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, and laboratory animal welfare 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.

Failure to comply with labor and employment laws and regulations could subject us to legal liability and costs, including fines or penalties, as well as reputational damage that could harm our business.

We are subject to numerous federal, state and local laws and regulations relating to the recruiting, hiring, compensation and treatment of employees and contractors. These laws and regulations cover financial compensation (including wage and hour standards), benefits (including insurance and 401K plans), discrimination, workplace safety and health, benefits, and workers' compensation. In varying degrees and scope, national, state and local laws prohibit unfavorable or unfair treatment in the workplace of employees or candidates based on their age, gender, race, national origin, religion, disability or sexual orientation. Disability laws also expand upon the employment rights of veterans and persons with disabilities. At a federal level, Title VII of the Civil Rights Act of 1964 prohibit discrimination on the basis of race, color, religion, sex or national origin. The Fair Labor Standards Act establishes a national minimum wage, guarantees "time-and-a-half" for overtime in certain jobs, and prohibits oppressive employment of minors. The Americans with Disabilities Act, as amended, prohibits discrimination based on disability.

The Commonwealth of Massachusetts also has laws that expand on these federal laws or create additional rights for employees or obligations for employers. For example, on July 1, 2018, the Massachusetts Equal Pay Act went into effect, which added protections employers must comply with regarding pay equity for "comparable work". There is currently uncertainty regarding the exact scope of these new legal limits and such uncertainty may remain for the foreseeable future. We may face increased employment and legal costs to ensure we are complying with this law. In addition, on October 1, 2018, a new Massachusetts non-compete law went into effect, placing additional restrictions on employers seeking to enter into non-competition agreements with employees. This law may negatively impact our ability to prevent employees from working with direct or indirect competitors in the future and may affect our ability to retain key talent in a competitive market.

Our failure to comply with these and other related laws could expose us to civil and, in some cases, criminal liability, including fines and penalties. Further, government or employee claims that we have violated any of these laws, even if ultimately disproven, could result in increased expense and management distraction, as well as have an adverse reputational impact on us.

Risks Related to Our Intellectual Property

Third-party claims of intellectual property infringement against us, our licensors or our collaborators may prevent or delay our product discovery and development efforts.

Our commercial success depends in part on our avoiding infringement of the valid patents and proprietary rights of third parties.

Numerous U.S. and foreign issued patents and pending patent applications owned by third parties exist in the fields in which we are developing our product candidates. As industry, government, academia and other biotechnology and pharmaceutical research expands and more patents are issued, the risk increases that our product candidates may give rise to claims of infringement of the patent rights of others. We cannot guarantee that our technology, future product candidates or the use of such product candidates do not infringe third-party patents. It is also possible that we have failed to identify relevant third-party patents or applications. Because patent rights are granted jurisdiction-by-jurisdiction, our freedom to practice certain technologies, including our ability to research, develop and commercialize our product candidates, may differ by country.

Third parties may assert that we infringe their patents or that we are otherwise employing their proprietary technology without authorization, and may sue us. There may be third-party patents of which we are currently unaware with claims to compositions, formulations, methods of manufacture or methods of use or treatment that cover product candidates we discover and develop. Because patent applications can take many years to issue, there may be currently pending patent applications that may later result in issued patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies or the manufacture, use or sale of our product candidates infringes upon these patents. If any such third-party patents were held by a court of competent jurisdiction to cover our technologies or product candidates, the holders of any such patents may be able to block our ability to commercialize the applicable product candidate unless we obtain a license under the applicable patents, or until such patents expire or are finally determined to be held invalid or unenforceable. Such a license may not be available on commercially reasonable terms or at all. If we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, our ability to commercialize our product candidates may be impaired or delayed, which could in turn significantly harm our business.

Third parties may seek to claim intellectual property rights that encompass or overlap with intellectual property that we own or license from them or others. Legal proceedings may be initiated to determine the scope and ownership of these rights, and could result in our loss of rights, including injunctions or other equitable relief that could effectively block our ability to further develop and commercialize our product candidates. For example, through the Caribou License, we sublicense the rights of the Regents of the University of California and the University of Vienna (collectively, "UC/Vienna") to a worldwide patent portfolio that covers methods of use and compositions relating to engineered CRISPR/Cas9 systems for, among other things, cleaving or editing DNA and altering gene product expression in various organisms, including eukaryotic cells. We sublicense the UC/Vienna rights to this portfolio for human therapeutic, prophylactic and palliative uses, including companion diagnostics, except for anti-fungal and anti-microbial uses. This patent portfolio to-date includes, for example, multiple granted, allowed, and/or allowable patent applications in the U.S., as well as granted patents from the European Patent Office, the United Kingdom's Intellectual Property Office, the German Patent and Trade Mark Office, Australia's Intellectual Property agency and China's Intellectual Property Office, among others. Because UC/Vienna co-own this portfolio with Dr. Emmanuelle Charpentier (from whom we do not have sublicense rights), we refer to this co-owned worldwide patent portfolio as the UC/Vienna/Charpentier patent family. UC/Vienna could challenge Caribou's rights under their license agreement, including Caribou's right to sublicense its rights to others, such as Intellia, and on what terms such a sublicense would be granted, each of which could adversely impact our rights under our license agreement with Caribou.

Similarly, on October 17, 2018, we initiated an arbitration proceeding with JAMS against Caribou asserting that Caribou is violating the terms and conditions of the Caribou License, as well as other contractual and legal rights, by using and seeking to license to third parties technology covered by two patent families (described in, for instance, PCT No. PCT/US2016/015145 and PCT No. PCT/US2016/064860, and related patents and applications) relating to specific structural or chemical modifications of guide RNAs, that were purportedly invented or controlled by Caribou, in our exclusive human therapeutic field. Caribou asserted that the two families of IP are outside the scope of our field of use under the license rights granted to us under the Caribou License.

On September 26, 2019, we announced that the arbitration panel issued an interim award concluding that both the structural and chemical guide RNAs modification technologies were exclusively licensed to us by Caribou pursuant to the Caribou License. After concluding that the chemical modification technology was within the scope of our exclusive license from Caribou, the arbitration panel nevertheless noted that its decision could delay or otherwise adversely impact the development of these modified guide RNAs as human therapeutics. It also noted that we currently are not using these modified guide RNAs in any of our active programs. Thus, solely with respect to the particular modified guide RNAs, the arbitration panel stated that it will declare that Caribou has an equitable "leaseback," which it described as exclusive, perpetual and worldwide (the "Caribou Award"). The panel instructed the parties to negotiate the terms of the Caribou Award, including Caribou's future payments to us for the same, but the parties' negotiations reached an impasse.

On February 6, 2020, after considering additional submissions from the parties, the panel clarified that the Caribou Award is limited to a particular on-going Caribou program, which seeks to develop a CAR-T cell product directed at CD19. The panel instructed the parties to seek to negotiate terms based on this scope. Accordingly, the Caribou Award will be subject to terms, including Caribou's future payments to us to be negotiated by the parties or, if unsuccessful, adjudicated in additional arbitration or judicial proceedings.

Pursuant to the September 2019 interim award, the Caribou Award by the panel does not include the structural guide modifications intellectual property at issue in the arbitration, any other intellectual property exclusively licensed or sublicensed by Caribou to us under the Caribou License (including but not limited to the foundational CRISPR/Cas9 intellectual property co-owned by University of California, University of Vienna and Dr. Emmanuelle Charpentier), or any other of our intellectual property.

Upon, and subject to the terms of, a final award, which will follow further arbitration or legal proceedings, Caribou could be able to use the modified guide RNAs at issue for CAR-T cell human therapeutics directed at CD19. Either we or Caribou may challenge the arbitration panel's decisions under limited circumstances. The additional time and legal costs associated with negotiating or arbitrating the terms of the Caribou Award, as well as its final terms, could adversely impact our exclusive right to use the particular modified guide RNAs in dispute and enable Caribou's ability to compete with us (or our licensees) in the development of CAR-T cell human therapeutics directed at CD19, each of which may adversely affect our business.

In addition, third parties could assert that UC/Vienna/Charpentier do not have rights to the CRISPR/Cas9 technology, including inventorship and ownership rights to currently issued or allowable patents, or that any rights owned by UC/Vienna/Charpentier are limited. For example, under our sublicense from Caribou, we have rights to patent applications owned by UC/Vienna Charpentier covering certain aspects of CRISPR/Cas9 systems to edit genes in eukaryotic cells, including human cells (collectively, the "UC/Vienna/Charpentier eukaryotic patent family"). The Broad Institute, Massachusetts Institute of Technology, the President and Fellows of Harvard College and the Rockefeller University (collectively, the "Broad Institute") co-own patents and patent applications that also claim CRISPR/Cas9 systems to edit genes in eukaryotic cells (collectively, the "Broad Institute patent family"). Because the respective owners of various UC/Vienna/Charpentier patent applications and the Broad Institute patent family both allege owning intellectual property claiming overlapping aspects of CRISPR/Cas9 systems and methods to edit genes in eukaryotic cells, including human cells, our ability to market and sell CRISPR/Cas9-based human therapeutics may be adversely impacted depending on the scope and actual ownership over the inventions claimed in the competing patent portfolios. On June 25, 2019, the Patent Trial and Appeal Board ("PTAB") of the U.S. Patent and Trademark Office ("USPTO") declared an interference between the UC/Vienna/Charpentier eukaryotic patent family and the Broad Institute patent family to determine which research group first invented the use of the CRISPR/Cas9 technology in eukaryotic cells and, therefore, is entitled to the patents covering the invention. On August 26, 2019, the PTAB redeclared the interference to include additional UC/Vienna/Charpentier patent applications covering the invention that had also been found allowable by the USPTO. If it were to succeed in the interference, the Broad could seek to assert its issued patents against us based on our CRISPR/Cas9-based activities, including commercialization. Defense of these claims, regardless of their merit, would involve substantial litigation expense, would be a substantial diversion of management and other employee resources from our business and may impact our reputation. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure. In that event, we could be unable to further develop and commercialize our product candidates, which could harm our business significantly.

In addition, other third parties, such as Vilnius University, ToolGen, Inc., MilliporeSigma (a subsidiary of Merck KGaA) and Harvard University, filed patent applications claiming CRISPR/Cas9-related inventions around or within a year after the UC/Vienna/Charpentier application was filed and allege (or may allege) that they invented one or more of the inventions claimed by UC/Vienna/Charpentier before UC/Vienna/Charpentier. If the USPTO deems the scope of the claims of one or more of these parties to sufficiently overlap with the allowable claims from the UC/Vienna/Charpentier application, the USPTO could declare other interference proceedings to determine the actual inventor of such claims. If these third-parties were to prevail in their inventorship claims or obtain patent claims that cover our product candidates or related activities through these various legal proceedings, then we could be prevented from developing and commercializing all or some of our products candidates unless we can obtain rights to the third-parties' intellectual property, or avoid or invalidate it.

Third parties could also assert patent rights against us to seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize product candidates. For example, the Broad Institute or other third-parties that own issued patents, including patents claiming aspects of the CRISPR-Cas9 technology, could seek to assert such patents against us claiming that our activities, including those relating to the CRISPR-Cas9 technology, infringe their respective patents. Defense of these or similar claims, regardless of their merit, would involve substantial legal expense, would be a substantial diversion of management and other employee resources from our business and may impact our reputation. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for any adjudicated willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure. In that event, we may be unable to further develop and commercialize our product candidates, which could harm our business significantly.

Third parties asserting their patent rights against us may seek and obtain injunctive or other equitable relief, which could effectively limit or block our ability to further develop and commercialize our product candidates. If we are found to infringe a third-party's valid intellectual property rights, we could be required to obtain a license from such third-party to continue developing and marketing our products and technology. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. We could be forced, including by court order, to cease commercializing, manufacturing or importing the infringing technology or product. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing one or more of our product candidates, force us to redesign our infringing products or force us to cease some or all of our business operations, any of which could materially harm our business and could prevent us from further developing and commercializing our proposed future product candidates thereby causing us significant harm. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business.

Third-party owned IP relating to CRISPR/Cas9 or other related technologies necessary to develop, manufacture and commercialize viable CRISPR/Cas9 therapeutics – such as compositions of the products or components, methods of treatment, delivery technologies, chemical modifications, and analytical and manufacturing methods – could adversely impact our ability to ultimately market and sell products. Third parties may own intellectual property, including patents, that cover all or aspects of our technologies and potential products, and may be necessary for us to develop or commercialize viable products. If we are unable to successfully license, avoid or challenge such third-party intellectual property, we may not be able to develop and commercialize viable products in all or certain jurisdictions. In addition, if the intellectual property covering our products or technologies that we own or license were to be legally impaired or lost, we may be unable to realize sufficient financial returns to support the development or commercialization of our products.

Under our license agreement with Caribou, we sublicense a patent family from the Regents of the University of California and the University of Vienna that is co-owned by Dr. Emmanuel Charpentier. The outcome of recent proceedings, as well as potential future proceedings, related to this patent family may affect our ability to utilize the intellectual property sublicensed under our license agreement with Caribou.

The Broad Institute patent family includes issued patents in the U.S. and Europe that purport to cover certain aspects of the CRISPR/Cas9 genome editing platform for use on eukaryotic cells, including human cells. On June 25, 2019, the PTAB declared an interference between the UC/Vienna/Charpentier eukaryotic patent family and the Broad patent family that claim the use of the CRISPR/Cas9 technology in eukaryotic cells, including human cells. On August 26, 2019, the PTAB redeclared the interference to include additional UC/Vienna/Charpentier patent applications covering the invention that had also been found allowable by the USPTO. In this interference, the PTAB will seek to determine which research group first invented the use of the technology in eukaryotic cells and, therefore, is entitled to the patents covering the invention. If the PTAB were to conclude that UC/Vienna/Charpentier were not the first inventors, we may not have rights to this invention, which could adversely impact our ability to develop and commercialize our product candidates. If it were to succeed in the interference, the Broad could seek to assert its issued patents against us based on our CRISPR/Cas9-based activities, including commercialization. Defense of these claims, regardless of their merit, would involve substantial litigation expense, would be a substantial diversion of management and other employee resources from our business and may impact our reputation. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure. In that event, we could be unable to further develop and commercialize our product candidates, which could harm our business significantly.

In addition, other third parties, such as Vilnius University, ToolGen, Inc., MilliporeSigma (a subsidiary of Merck KGaA) and Harvard University, filed patent applications claiming CRISPR/Cas9-related inventions around or within a year after the UC/Vienna/Charpentier application was filed and allege (or may allege) that they invented one or more of the inventions claimed by UC/Vienna/Charpentier before UC/Vienna/Charpentier. If the USPTO deems the scope of the claims of one or more of these parties to sufficiently overlap with the allowable claims from the UC/Vienna/Charpentier application, the USPTO could declare other interference proceedings to determine the actual inventor of such claims. In addition, UC/Vienna/Charpentier or the other third parties could seek judicial review of their inventorship claims. If UC/Vienna/Charpentier fail in defending their inventorship priority on any of these claims, we may lose valuable intellectual property rights, such as the exclusive right to use such intellectual property. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against such claims, any disputes could result in substantial costs and be a distraction to management and other employees.

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

We may in the future be subject to claims that former employees, collaborators or other third parties have an interest in our patents or other intellectual property as an inventor or co-inventor or other claims challenging the inventorship of our patents or ownership of our intellectual property (including patents and intellectual property that we in-license). For example, the UC/Vienna/Charpentier patent family that is covered by our license agreement with Caribou is co-owned by UC/Vienna and Dr. Charpentier, and our sublicense rights are derived from the first two co-owners and not from Dr. Charpentier. Therefore, our rights to these patents are not exclusive and third parties, including competitors, may have access to intellectual property that is important to our business. In addition, we may have inventorship disputes arise from conflicting obligations of collaborators, consultants or others who are involved in developing our technology and product candidates. Litigation or other legal proceedings may be necessary to defend against these and other claims challenging inventorship. If we 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, valuable intellectual property. Such an outcome could have a material adverse effect on our business. 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.

We depend on intellectual property licensed from third parties and termination or modification of any of these licenses could result in the loss of significant rights, which would harm our business.

We are dependent on patents, know-how and proprietary technology, both our own and licensed from others, including Caribou, Novartis and Ospedale San Raffaele (“OSR”). Any termination of these licenses, loss by our licensors of the rights they receive from others, diminution of our rights or those of our licensors, or a finding that such intellectual property lacks legal effect, could result in the loss of significant rights and could harm our ability to commercialize any product candidates. For example, UC/Vienna could challenge Caribou’s rights under their agreement, including Caribou’s right to sublicense its rights to others, such as Intellia, and on what terms such a sublicense would be granted, each of which could adversely impact our rights under our agreement with Caribou. Similarly, Caribou or other licensors, or other third parties from which we derive rights, could challenge the scope of our licensed rights or fields under our license agreement, which could adversely impact our exclusive rights to use CRISPR/Cas9 technology in our human therapeutics field.

For example, as discussed above**,** on September 26, 2019, we announced that an arbitration panel had issued an interim award concluding that both the structural and chemical guide RNAs modification technologies were exclusively licensed to us by Caribou pursuant to the Caribou License. After concluding that the chemical modification technology was within the scope of our exclusive license with Caribou, the arbitration panel noted that its decision could delay or otherwise adversely impact the development of these modified guide RNAs as human therapeutics. Thus, solely with respect to the particular modified guide RNAs, the arbitration panel stated that it will declare that Caribou has an equitable award, which it described as exclusive, perpetual and worldwide. Upon, and subject to the terms of, a final award, which will follow further legal proceedings between the parties, Caribou could be able to use the modified guide RNAs at issue for human therapeutics. Although the interim award has no effect on our rights or current programs nor on Caribou’s obligations under the Caribou License, we cannot predict the potential implications and impact the interim award may have on our business.

Disputes have and may arise between us and our licensors, our licensors and their licensors, or us and third parties that co-own intellectual property with our licensors or their licensors, regarding intellectual property subject to a license agreement, including those relating to:

- the scope of rights, if any, granted under the license agreement and other interpretation-related issues;
- whether and the extent to which our technology, products and processes infringe on, or derive from, intellectual property of the licensor that is not subject to the license agreement;
- whether our licensor or its licensor had the right to grant the license agreement, or whether they are compliant with their contractual obligations to their respective licensor(s);
- whether third parties are entitled to compensation or equitable relief, such as an injunction, for our use of the intellectual property without their authorization;
- our right to sublicense patent and other rights to third parties, including those under collaborative development relationships;
- whether we are complying with our obligations with respect to the use of the licensed technology in relation to our development and commercialization of product candidates;
- our involvement in the prosecution, defense and enforcement of the licensed patents and our licensors' overall patent strategy;
- the allocation of ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and by us and our partners; and
- the amounts of royalties, milestones or other payments due under the license agreement.

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, or are insufficient to provide us the necessary rights to use the intellectual property, we may be unable to successfully develop and commercialize the affected product candidates. If we or any such licensors fail to adequately protect this intellectual property, our ability to commercialize our products could suffer.

We depend, in part, on our licensors to file, prosecute, maintain, defend and enforce patents and patent applications that are material to our business.

Patents relating to our product candidates are controlled by certain of our licensors or their respective licensors. Each of our licensors or their licensors generally has rights to file, prosecute, maintain and defend the patents we have licensed from such licensor. If these licensors or any future licensees and in some cases, co-owners from which we do not yet have licenses, having rights to file, prosecute, maintain, and defend our patent rights fail to adequately conduct these activities for patents or patent applications covering any of our product candidates, our ability to develop and commercialize those product candidates may be adversely affected and we may not be able to prevent competitors from making, using or selling competing products. We cannot be certain that such activities by our licensors or their respective licensors have been or will be conducted in compliance with applicable laws and regulations or in our best interests, or will result in valid and enforceable patents or other intellectual property rights. Pursuant to the terms of the license agreements with our licensors, the licensors may have the right to control enforcement of our licensed patents or defense of any claims asserting the invalidity of these patents and, even if we are permitted to pursue such enforcement or defense, we cannot ensure the cooperation of our licensors or, in some cases, other necessary parties, such as the co-owners of the intellectual property from which we have not yet obtained a license. We cannot be certain that our licensors or their licensors, and in some cases, their respective co-owners, will allocate sufficient resources or prioritize their or our enforcement of such patents or defense of such claims to protect our interests in the licensed patents. For example, with respect to our sublicensed rights from Caribou to UC/Vienna/Charpentier intellectual property, UC retained the right to control the prosecution, enforcement and defense of this intellectual property in its license agreement with Caribou and, pursuant to an Invention Management Agreement, shares these responsibilities with CRISPR Therapeutics and, under certain circumstances, ERS Genomics, Ltd., as the designated managers of the intellectual property. For these reasons, UC may be unable or unwilling to prosecute certain patent claims that would be best for our product candidates, or enforce its patent rights against infringers of the UC/Vienna/Charpentier patent family.

Even if we are not a party to legal actions or other disputes involving our licensed intellectual property, an adverse outcome could harm our business because it might prevent us from continuing to license intellectual property that we may need to operate our business. In addition, even when we have the right to control patent prosecution of licensed patents and patent applications, enforcement of licensed patents, or defense of claims asserting the invalidity of those patents, we may still be adversely affected or prejudiced by actions or inactions of our licensors and their counsel that took place prior to or after our assuming control.

We may not be successful in obtaining or maintaining necessary rights to product components and processes or other technology for our product development pipeline.

The growth of our business will likely depend in part on our ability to acquire or in-license additional proprietary rights. For example, our programs may involve additional product candidates, delivery systems or technologies that may require the use of additional proprietary rights held by third parties. Our ultimate product candidates may also require specific modifications or formulations to work effectively and efficiently. These modifications or formulations may be covered by intellectual property rights held by others. We may be unable to acquire or in-license any relevant third-party intellectual property rights that we identify as necessary or important to our business operations.

Additionally, we sometimes collaborate with academic institutions to accelerate our preclinical research or development under written agreements with these institutions. Typically, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to other parties, potentially blocking our ability to pursue our program.

The licensing and acquisition of third-party intellectual property rights is a competitive practice and companies that may be more established, or have greater resources than we do, may also be pursuing strategies to license or acquire third-party intellectual property rights that we may consider necessary or attractive in order to commercialize our product candidates. More established companies may have a competitive advantage over us due to their larger size and cash resources or greater clinical development and commercialization capabilities. There can be no assurance that we will be able to successfully complete such negotiations and ultimately acquire the rights to the intellectual property surrounding the additional product candidates that we may seek to acquire.

If we are unable to successfully obtain rights to valid third-party intellectual property or to maintain the existing intellectual property rights we have, we may have to abandon development of such program and our business and financial condition could suffer.

We could be unsuccessful in obtaining or maintaining adequate patent protection for one or more of our products or product candidates, or asserting and defending our intellectual property rights that protect our products and technologies.

We anticipate that we will file additional patent applications both in the U.S. and in other countries, as appropriate. However, we cannot predict:

- if and when any patents will issue;
- the scope, degree and range of protection any issued patents will afford us against competitors, including whether third parties will find ways to invalidate or otherwise circumvent our patents;
- whether others will apply for or obtain patents claiming aspects similar to those covered by our patents and patent applications;
- whether certain governments will appropriate our intellectual property rights and allow competitors to use them; or
- whether we will need to initiate litigation or administrative proceedings to assert or defend our patent rights, which may be costly whether we win or lose.

Composition of matter patents for biological and pharmaceutical products are generally considered to be the strongest form of intellectual property protection for those types of products, as such patents provide protection without regard to any method of use. We cannot be certain, however, that any claims in our pending or future patent applications covering the composition of matter of our product candidates will be considered patentable by the USPTO or by patent offices in foreign countries, or that the claims in any of our ultimately issued patents will be considered valid and enforceable by courts in the U.S. or foreign countries. Method of use patents protect the use of a product for the specified method, for example a method of treating a certain indication using a product. This type of patent does not prevent a competitor from making and marketing a product that is identical to our product for an indication that is outside the scope of the patented method. Moreover, even if competitors do not actively promote their product for our targeted indications, physicians may prescribe these products "off-label" for those uses that are covered by our method of use patents. Although off-label prescriptions may infringe or contribute to the infringement of method of use patents, the practice is common and such infringement is difficult to prevent or prosecute.

The strength of patents in the biotechnology and pharmaceutical field can be uncertain, and evaluating the scope of such patents involves complex legal and scientific analyses. The patent applications that we own or in-license may fail to result in issued patents with claims that cover any product candidates or uses thereof in the U.S. or in other foreign countries.

Further, the patent prosecution process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost, in a timely manner, or in all jurisdictions. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Moreover, in some circumstances, we do not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license from third parties. We may also require the cooperation of our licensors or other necessary parties, such as the co-owners of the intellectual property from which we have not yet obtained a license, in order to enforce the licensed patent rights, and such cooperation may not be provided. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business.

The laws of foreign countries may not protect our rights to the same extent as the laws of the U.S. and we may fail to seek or obtain patent protection in all major markets. For example, European patent law restricts the patentability of methods of treatment of the human body more than U.S. law does. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the U.S. and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we will be unable to know with certainty whether we were the first to make any inventions claimed in any patents or patent applications, or that we were the first to file for patent protection of such inventions, nor can we know whether those from whom we license patents were the first to make the inventions claimed or were the first to file.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the U.S. and abroad. There is a substantial amount of litigation as well as administrative proceedings for challenging patents, including interference, derivation, and reexamination proceedings before the USPTO and oppositions and other comparable proceedings in foreign jurisdictions, involving patents and other intellectual property rights in the biotechnology and pharmaceutical industries, and we expect this to be true for the CRISPR/Cas9 space as well. For example, a number of third parties have filed oppositions challenging the validity, and seeking the revocation, of the CRISPR/Cas9 genome editing patents granted to UC/Vienna/Charpentier by the European Patent Office to date. For example, third parties may continue to seek to challenge on appeal the validity of UC/Vienna/Charpentier's first European patent, which covers compositions comprising Cas9 and single guide RNA molecules, as well as methods of editing DNA *in vitro* or *ex vivo* using Cas9 and single guide RNAs, even though the European Patent Office ("EPO") reaffirmed the validity of substantially all the claims after hearing the challenges of these third parties in January 2020. If UC/Vienna/Charpentier fail in defending the validity of this patent on appeal (or, at hearings before the European Patent Office's Opposition Division, their other European patents that have similarly been opposed), we may lose valuable intellectual property rights, such as the exclusive right to use such intellectual property. Such an outcome could have a material adverse effect on our business in Europe. In addition, since the passage of the America Invents Act in 2013, U.S. law also provides for other procedures to challenge patents, including *inter partes* reviews and post-grant reviews, that add uncertainty to the possibility of challenge to our developed or licensed patents and patent applications in the future. Furthermore, for U.S. applications in which all claims are entitled to a priority date before March 16, 2013, an interference proceeding can be provoked by a third-party or instituted by the USPTO to determine who was the first to invent any of the subject matter covered by the patent claims of our applications. See the above risk factor titled "*Third-party claims of intellectual property infringement against us, our licensors or our collaborators may prevent or delay our product discovery and development efforts.*"

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 practice the invention or stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products. 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 owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from designing their products to avoid being covered by our claims. If the breadth or strength of protection provided by the patent applications we hold is threatened, this could dissuade companies from collaborating with us to develop, and could threaten our ability to commercialize, product candidates. Further, if we encounter delays in our clinical trials, the period of time during which we could market product candidates under patent protection would be reduced. Because patent applications in the U.S. and most other countries are confidential for a period of time after filing, we cannot be certain that we were the first to file any patent application related to our product candidates.

Our pending and future patent applications or the patent applications that we obtain rights to through in-licensing arrangements may not result in patents being issued which protect our technology or future product candidates, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. Changes in either the patent laws or interpretation of the patent laws in the U.S. and other countries may diminish the value of our patents or narrow the scope of our patent protection.

Litigation or other administrative proceedings challenging our intellectual property, including interferences, derivation, reexamination, *inter partes* reviews and post-grant reviews, may result in a decision adverse to our interests and, even if we are successful, may result in substantial costs and distract our management and other employees. Furthermore, there could be public announcement of the results of hearings, motions or other interim proceedings or developments in any proceeding challenging the issuance, scope, validity and enforceability of our developed or licensed intellectual property. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

Any of these potential negative developments could impact the scope, validity, enforceability or commercial value of our patent rights and, as a result, have material adverse effect on our business, financial condition, results of operations or prospects.

Confidentiality agreements with employees and third parties may not prevent unauthorized disclosure of trade secrets and other proprietary information.

In addition to the protection afforded by patents, we seek to rely on trade secret protection and confidentiality agreements to protect our proprietary and confidential information. We also utilize proprietary processes for which it would be difficult to enforce patents. In addition, other elements of our product discovery and development processes involve proprietary know-how, information, or technology that is not covered by patents. Trade secrets, however, may be difficult to protect. We seek to protect our proprietary processes, in part, by entering into confidentiality agreements with our employees, consultants, outside scientific advisors, contractors, and collaborators, and we also rely on national and state laws requiring our directors, employees, contractors and collaborators to protect our proprietary information. Although we use reasonable efforts to protect our trade secrets, our employees, consultants, outside scientific advisors, contractors, and collaborators might intentionally or inadvertently disclose our trade secret information to competitors. In addition, competitors may otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. Furthermore, the laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws of the U.S. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the U.S. and abroad. If we are unable to prevent unauthorized material disclosure of our intellectual property to third parties, or misappropriation of our intellectual property by third parties, we may not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, operating results, and financial condition.

We have limited foreign intellectual property rights and may not be able to protect our intellectual property rights throughout the world.

We have limited intellectual property rights outside the U.S. Filing, prosecuting, maintaining and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the U.S. can have a different scope and strength than do those in the U.S. In addition, the laws of some foreign countries, such as China, Brazil, Russia, India and South Africa, do not protect intellectual property rights to the same extent as federal and state laws in the U.S. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the U.S., or from selling or importing products made using our inventions in and into the U.S. or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement rights are not as strong as those in the U.S. These products may compete with our products and our patents or other intellectual property rights may not be effective or adequate to prevent them from competing. In addition, in jurisdictions outside the U.S., a license may not be enforceable unless all the owners of the intellectual property agree or consent to the license. Further, patients may choose to travel to countries in which we do not have intellectual property rights or which do not enforce these rights to obtain the products or treatment from competitors in such countries.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, such as China, Brazil, Russia, India and South Africa, do not favor the enforcement of patents, trade secrets and other intellectual property, particularly those relating to biopharmaceutical products, which could make it difficult in those jurisdictions for us to stop the infringement or misappropriation of our patents or other intellectual property rights, or the marketing of competing products in violation of our proprietary rights. Proceedings to enforce our patent and other intellectual property rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business. Furthermore, such proceedings could put our patents at risk of being invalidated, held unenforceable, or interpreted narrowly, could put our patent applications at risk of not issuing, and could provoke third parties to assert claims of infringement or misappropriation against us. We may not prevail in any lawsuits that we 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.

We may be involved in lawsuits to protect or enforce our patents, the patents of our licensors or our licenses, which could be expensive, time-consuming, and unsuccessful.

Competitors may infringe our patents or the patents of our licensors. To cease such infringement or unauthorized use, we may be required to file patent infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding or a declaratory judgment action against us, a court may decide that one or more of our patents is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceeding could put one or more of our patents at risk of being invalidated, held unenforceable or interpreted narrowly and could put our patent applications at risk of not issuing. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business.

Interference or derivation proceedings provoked by third parties or brought by the USPTO may be necessary to determine the priority of inventions with respect to, or the correct inventorship of, our patents or patent applications or those of our licensors. An unfavorable outcome could result in a loss of our current patent rights and 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. Litigation, interference or derivation proceedings may result in a decision adverse to our interests and, even if we are successful, may result in substantial costs and distract our management and other employees.

Further, if a party to our licenses, either a licensee or licensor, were to breach or challenge our rights under the relevant license agreement (or if one of our licensor's own licensors were to challenge our licensor's rights), we may have to initiate or participate in a legal proceeding to enforce our rights. Any such legal proceeding could be expensive and time-consuming. In addition, if a court or other tribunal were to rule against us, we could lose key intellectual property and financial rights. Pursuing or defending against these legal claims, regardless of merits, would involve substantial legal expense and would be a substantial diversion of employee resources from our business. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation or contractual litigation there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation or proceeding. In addition, there could 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 have a substantial adverse effect on the price of our common stock. For example, as discussed above**,** on September 26, 2019, we announced that an arbitration panel had issued an interim award concluding that both the structural and chemical guide RNAs modification technologies were exclusively licensed to us by Caribou pursuant to the Caribou License. Nevertheless, the arbitration panel noted that its decision could delay or otherwise adversely impact the development of these modified guide RNAs as human therapeutics. Thus, solely with respect to the particular modified guide RNAs, the arbitration panel stated that it will declare that Caribou has an equitable award, which it described as exclusive, perpetual and worldwide. Upon, and subject to the terms of, a final award, which will follow further legal proceedings between the parties, Caribou could be able to use the modified guide RNAs at issue to develop engineered CAR-T's directed at CD19 as human therapeutics. Although the interim award has no effect on our rights or current programs nor on Caribou's obligations under the Caribou License, we cannot predict the potential implications and impact the interim award may have.

Issued patents covering our product candidates could be found invalid or unenforceable if challenged in court or before the USPTO or comparable foreign authority.

If we or one of our licensing partners initiate legal proceedings against a third-party to enforce a patent covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate is invalid or unenforceable. In patent litigation in the U.S., defendant counterclaims alleging invalidity or unenforceability are commonplace, and there are numerous grounds upon which a third-party can assert invalidity or unenforceability of a patent. Third parties may also raise similar claims before administrative bodies in the U.S. or other jurisdictions, even outside the context of litigation. Such mechanisms include re-examination, *inter partes* review, post-grant review and equivalent proceedings in foreign jurisdictions, such as opposition or derivation proceedings. Such proceedings could result in revocation or amendment to our patents in such a way that they no longer cover and protect our product candidates. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity of our patents, for example, we cannot be certain that there is no invalidating prior art of which we, our patent counsel, and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity, unpatentability and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates. For example, various third parties have filed challenges to the validity of UC/Vienna/Charpentier's European patents, which cover compositions comprising Cas9 and gRNA molecules, as well as methods of editing DNA *in vitro* or *ex vivo* using Cas9 and gRNAs. If UC/Vienna/Charpentier fail in defending the validity of these patents, we may lose valuable intellectual property rights, such as the exclusive right to use such intellectual property. Such an outcome could have a material adverse effect on our business in Europe.

We may be subject to claims that our employees, directors, consultants, or independent contractors have wrongfully used or disclosed confidential information of third parties.

We have received confidential and proprietary information from third parties. In addition, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies as well as academic research institutions. We may be subject to claims that we or our employees, directors, consultants, or independent contractors have inadvertently or otherwise used or disclosed confidential information of these third parties or our employees' former employers. Litigation may be necessary to defend against these claims, which could result in money damages or a judicial order prohibiting the use of certain intellectual property. Even if we are successful in defending against these claims, litigation could result in substantial cost and be a distraction to our management and 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 on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. Although an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance 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. Noncompliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official actions within prescribed time limits, non-payment of fees, and failure to properly legalize and submit formal documents. In any such event, our competitors might be able to enter the market, which would have a material adverse effect on our business.

We may be required to pay certain milestones and royalties under our license agreements with third-party licensors.

Under our current and future license agreements, we may be required to pay milestones and royalties based on our revenues, including sales revenues of our products, utilizing the technologies licensed or sublicensed from third parties, including Caribou, Novartis, Regeneron and OSR, and these milestones and royalty payments could adversely affect our ability to research, develop and obtain approval of product candidates, as well as the overall profitability for us of any products that we may seek to commercialize. In order to maintain our license rights under these license agreements, we will need to meet certain specified milestones, subject to certain cure provisions, in the development of our product candidates. Further, our licensors (or their licensors) or licensees may dispute the terms, including amounts, that we are required to pay under the respective license agreements. If these claims were to result in a material increase in the amounts that we are required to pay to our licensors, or in a claim of breach of the license, our ability to research, develop and obtain approval of product candidates, or to commercialize products, could be significantly impaired.

In addition, these agreements contain diligence milestones and we may not be successful in meeting all of the milestones in the future on a timely basis or at all. We will need to outsource and rely on third parties for many aspects of the clinical development, sales and marketing of our products covered under our license agreements. Delay or failure by these third parties could adversely affect the continuation of our license agreements with their third-party licensors.

If our 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.

If our 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 unregistered trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential partners or future, potential 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 registered trademarks or trademarks that incorporate variations of our unregistered trademarks or trade names. Over the long term, if we are unable to successfully register our trademarks and trade names and 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. Our efforts to enforce or protect our proprietary rights related to trademarks, 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 impact our financial condition or results of operations.

Risks Related to Our Common Stock

An active trading market for our common stock may not be sustained.

In May 2016, we closed our initial public offering. Prior to this offering, there was no public market for our common stock. Although we have completed our initial public offering and shares of our common stock are listed and trading on the Nasdaq Global Market, an active trading market for our shares may not be sustained. If an active market for our common stock does not continue, it may be difficult for our stockholders to sell their shares without depressing the market price for the shares or sell their shares at or above the prices at which they acquired their shares or sell their shares at the time they would like to sell. Any inactive trading market for our common stock may also impair our ability to raise capital to continue to fund our operations by selling shares and may impair our ability to acquire other companies or technologies by using our shares as consideration.

The price of our common stock historically has been volatile, which may affect the price at which you could sell any shares of our common stock.

The market price for our common stock historically has been highly volatile and could continue to be subject to wide fluctuations in response to various factors. This volatility may affect the price at which you could sell the shares of our common stock, and the sale of substantial amounts of our common stock could adversely affect the price of our common stock. Our stock price is likely to continue to be volatile and subject to significant price and volume fluctuations in response to market and other factors, including:

- the success of our or competing products or technologies;
- results of clinical trials of our product candidates or those of our competitors;
- developments or disputes concerning patent applications, issued patents or other intellectual property rights;
- regulatory or legal developments in the U.S. and other countries;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- the results of our efforts to discover, develop, acquire or in-license additional product candidates or products;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or the financial results of companies that are perceived to be similar to us;

- sales of a substantial number of shares of our common stock in the public market, or the perception in the market that the holders of a large number of shares intend to sell shares;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- public perception of the safety of genome editing based therapeutics;
- general economic, industry and market conditions; and
- the other factors described in this *Risk Factors* section.

In addition, companies trading in the stock market in general, and in the Nasdaq Global Market in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. In the past, following periods of volatility in the market, securities class-action litigation has often been instituted against companies. Such litigation, if instituted against us, could result in substantial costs and diversion of management's attention and resources, which could materially and adversely affect our business, financial condition, results of operations and growth prospects.

Our principal stockholders and management own a significant percentage of our stock and, if they choose to act together, will be able to control or exercise significant influence over matters subject to stockholder approval.

As of December 31, 2019, our executive officers, directors, 5% or greater stockholders and their affiliates beneficially owned approximately 63% of our outstanding voting stock. These stockholders may have the ability to influence us through their ownership positions. These stockholders may be able to determine all matters requiring stockholder approval. For example, these stockholders, acting together, may be able to control elections of directors or approval of any merger, sale of assets or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may believe are in your best interest as one of our stockholders.

We have broad discretion over the use of our cash and cash equivalents and may not use them effectively.

Our management has broad discretion to use our cash and cash equivalents to fund our operations and could spend these funds in ways that do not improve our results of operations or enhance the value of our common stock. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of our product candidates. Pending our use to fund operations, we may invest our cash and cash equivalents in a manner that does not produce income or that loses value.

Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our equity incentive plans, could result in additional dilution of the percentage ownership of stockholders and could cause our stock price to fall.

We will need additional capital in the future to continue our planned operations in addition to the proceeds we received from our initial public offering ("IPO") in May 2016 and follow-on public offering in November 2017. To the extent we raise additional capital by issuing equity securities, our stockholders may experience substantial dilution. We may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities or other equity securities in more than one transaction, investors may be materially diluted by subsequent sales. These sales may also result in material dilution to our existing stockholders, and new investors could gain rights superior to our existing stockholders.

On October 12, 2018, we filed a Shelf Registration Statement on Form S-3 (the "2018 Shelf") with the SEC in relation to the registration of common stock, preferred stock, warrants and units of any combination thereof for the purposes of selling, from time to time, our common stock, convertible securities or other equity securities in one or more offerings. We also simultaneously entered into an Open Market Sale Agreement (the "2018 Sales Agreement") with Jefferies LLC (the "Sales Agent"), to provide for the offering, issuance and sale of up to an aggregate amount of $100.0 million of our common stock from time to time in "at-the-market" offerings under the 2018 Shelf and subject to the limitations thereof. We have paid the Sales Agent cash commissions of 3.0% of the gross proceeds of sales of common stock under the 2018 Sales Agreement. In November 2018, we issued 1,659,300 shares of our common stock at $18.00 per share in accordance with the 2018 Sales Agreement for net proceeds of $28.5 million, after payment of cash commissions to the Sales Agent and approximately $0.4 million related to legal, accounting and other fees in connection with the sales. During the twelve months ended December 31, 2019, we issued an additional 4,231,348 shares of our common stock, in a series of sales, at an average price of $16.57 per share, in accordance with the 2018 Sales Agreement, for aggregate net proceeds of $67.8 million, after payment of cash commissions to the Sales Agent and approximately $0.2 million related to legal, accounting and other fees in connection with the sales. All shares related to the 2018 Sales Agreement had been sold as of December 31, 2019.

On August 23, 2019, we filed a Registration Statement on Form S-3, as amended (the "2019 Shelf") with the SEC, which was declared effective on September 12, 2019 (File No. 333-233448) in relation to the registration of common stock, preferred stock, debt securities, warrants and units of any combination thereof. We also simultaneously entered into an Open Market Sale Agreement (the "2019 Sales Agreement") with the Sales Agent, to provide for the offering, issuance and sale of up to an aggregate amount of $150.0 million of our common stock from time to time in "at-the-market" offerings under the 2019 Shelf and subject to the limitations thereof. We will pay to the Sales Agent cash commissions of 3.0% of the gross proceeds of sales of common stock under the 2019 Sales Agreement. In December 2019, we issued 287,231 shares of our common stock at an average price of $16.48 per share in accordance with the 2019 Sales Agreement for aggregate net proceeds of $4.4 million, after payment of cash commissions to the Sales Agent and approximately $0.2 million related to legal, accounting and other fees in connection with the sales. During the three months ended March 31, 2020, we issued 351,252 shares of our common stock in a series of sales at an average price of $15.05 per share in accordance with the 2019 Sales Agreement, for aggregate net proceeds of $5.1 million after payment of cash commissions to the Sales Agent and approximately $0.1 million related to legal, accounting and other fees in connection with the sales. In addition, sales of a substantial number of shares of our outstanding common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares of common stock intend to sell shares, could reduce the market price of our common stock. Persons who were our stockholders prior to our IPO continue to hold a substantial number of shares of our common stock that many of them are now able to sell in the public market. Significant portions of these shares are held by a relatively small number of stockholders. Sales by our stockholders of a substantial number of shares, or the expectation that such sales may occur, could significantly reduce the market price of our common stock.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us difficult, limit attempts by our stockholders to replace or remove our current management and adversely affect our stock price.

Provisions of our certificate of incorporation and by-laws may delay or discourage transactions involving an actual or potential change in our control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares, or transactions that our stockholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our stock. Among other things, the certificate of incorporation and by-laws:

- permit the board of directors to issue up to 5,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate;
- provide that the authorized number of directors may be changed only by resolution of the board of directors;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- divide the board of directors into three classes;
- provide that a director may only be removed from the board of directors by the stockholders for cause;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders, and may not be taken by written consent;

- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide notice in writing in a timely manner, and meet specific requirements as to the form and content of a stockholder's notice;
- prevent cumulative voting rights (therefore allowing the holders of a plurality of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose);
- require that, to the fullest extent permitted by law, a stockholder reimburse us for all fees, costs and expenses incurred by us in connection with a proceeding initiated by such stockholder in which such stockholder does not obtain a judgment on the merits that substantially achieves the full remedy sought;
- provide that special meetings of our stockholders may be called only by the chairman of the board, our chief executive officer (or president, in the absence of a chief executive officer) or by the board of directors; and
- provide that stockholders will be permitted to amend the bylaws only upon receiving at least two-thirds of the total votes entitled to be cast by holders of all outstanding shares then entitled to vote generally in the election of directors, voting together as a single class.

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with any "interested" stockholder for a period of three years following the date on which the stockholder became an "interested" stockholder.

Our certificate of incorporation and by-laws designate certain courts as the sole and exclusive forums for certain disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our certificate of incorporation and by-laws provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware is the sole and exclusive forum for any state law claims for any derivative action or proceeding brought on our behalf alleging state law claims, any action asserting a breach of fiduciary duty, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our certificate of incorporation or our by-laws, any action to interpret, apply, enforce, or determine the validity of our certificate of incorporation or bylaws, or any action asserting a claim against us that is governed by the internal affairs doctrine (the "Delaware Forum Provision"). The Delaware Forum Provision does not apply to claims arising under the Exchange Act or the Securities Act. Our by-laws further provide that the U.S. District Court for the District of Massachusetts will be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act (the "Federal Forum Provision"). We have chosen the U.S. District Court for the District of Massachusetts as the exclusive forum for such Securities Act causes of action because our principal executive offices are located in Cambridge, Massachusetts. Our by-laws provide that any person or entity purchasing or otherwise acquiring any interest in any shares of our common stock is deemed to have notice of and consented to the foregoing Delaware Forum Provision and the Federal Forum Provision.

The Delaware Forum Provision and the Federal Forum Provision may impose additional litigation costs on stockholders in pursuing the claims identified above, particularly if the stockholders do not reside in or near the State of Delaware or the Commonwealth of Massachusetts. Additionally, the Delaware Forum Provision and the Federal Forum Provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. Alternatively, if a court were to find the Delaware Forum Provision and the Federal Forum Provision to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business and financial condition. The Court of Chancery of the State of Delaware or the U.S. District Court for the District of Massachusetts may also reach different judgments or results than would other courts, including courts where a stockholder considering an action may be located or would otherwise choose to bring the action, and such judgments may be more or less favorable to us than our stockholders.

We incur significant costs as a result of operating as a public company, and our management is required to devote substantial time to compliance initiatives and corporate governance practices.

As a public company, and particularly since we are no longer an "emerging growth company" under applicable SEC regulations, we incur significant legal, accounting and other expenses. The Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of the Nasdaq Global Market and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel devote a substantial amount of time to these compliance initiatives.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002 ("Section 404"), we are 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. We conduct a process each year to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we dedicate internal resources, 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 that neither we nor our independent registered public accounting firm will be able to conclude 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 consolidated financial statements.

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

The trading market for our common stock will depend, in part, on the research and reports that securities or industry analysts publish about us or our business. Securities and industry analysts may not publish an adequate amount of research on us, which may negatively impact the trading price for our stock. In addition, if one or more of the analysts who cover us downgrade our stock or publish inaccurate or unfavorable research about our business, our stock price would likely decline. Further, if our operating results fail to meet the forecasts of analysts, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

We could be subject to significant legal proceedings which may adversely affect our results of operations or financial condition.

We are subject to the risk of litigation, derivative claims, securities class actions, regulatory and governmental investigations and other proceedings, including proceedings arising from investor dissatisfaction with us or our performance. In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biotechnology and pharmaceutical companies have experienced significant stock price volatility in recent years. In addition, if any individuals acting on our behalf fails to satisfy his or her relevant legal or contractual duties, we could have liability to third-parties, including the government or investors. If any claims were brought against us and resulted in a finding of substantial legal liability, the finding could materially adversely affect our business, financial condition or results of operations or cause significant reputational harm to us, which could seriously adversely impact our business. Allegations of improper conduct by private litigants or regulators, regardless of veracity, also may harm our reputation and adversely impact our ability to grow our business. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

Changes in tax law may adversely affect our business and financial condition.

The laws and rules dealing with U.S. federal, state and local income taxation are routinely being reviewed and modified by governmental bodies, officials and regulatory agencies, including the Internal Revenue Service and the U.S. Treasury Department. Since we were founded in 2014, many such changes have been made and changes are likely to continue to occur in the future. It cannot be predicted whether, when, in what form, or with what effective dates, tax laws, regulations and rulings may be enacted, promulgated or issued, that could result in an increase in our or our stockholders' tax liability.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.

We have incurred substantial losses during our history and do not expect to become profitable in the near future, and we may never achieve profitability. To the extent that we continue to generate taxable losses, unused losses will carry forward to offset future taxable income, if any, until such unused losses expire. As of December 31, 2019, we had federal and state NOLs of $229.9 million and $236.8 million, respectively, which begin to expire in 2034. As of December 31, 2019, we had federal and state research and development and other credit carryforwards of approximately $12.6 million and $8.7 million, which begin to expire in 2035 and 2031, respectively. Under Sections 382 and 383 of the Code, if a corporation undergoes an "ownership change," generally defined as a greater than 50 percentage point change (by value) in its equity ownership by certain stockholders over a three-year period, the corporation's ability to use its pre-change NOLs, and other pre-change tax attributes (such as research and development tax credits) to offset its post-change income or taxes may be limited. We may have experienced ownership changes in the past and may experience ownership changes in the future as a result of our initial public offering in May of 2016, follow-on offerings and/or subsequent shifts in our stock ownership (some of which shifts are outside our control). As a result, if we earn net taxable income, our ability to use our pre-change NOLs and research and development tax credits to offset such taxable income and income tax, respectively, could be subject to limitations. Similar provisions of state tax law may also apply. As a result, even if we attain profitability, we may be unable to use a material portion of our NOLs and other tax attributes. NOLs generated in taxable years ending after December 31, 2017 are not subject to expiration.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

None.

Item 6. Exhibits

The following exhibits are incorporated by reference or filed as part of this report.

3.1	Second Amended and Restated By-laws of the Company, as amended on April 3, 2020. (1)
10.1	Lease, dated as of March 12, 2020, by and between the Company and 281-295 Albany Street Leasehold LLC. (1)
10.2	Second Amendment to Lease, dated as of March 12, 2020, by and between the Company and MIT 130 Brookline Leasehold LLC. (1)
31.1	Certification of Chief Executive Officer pursuant to Rules 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (1)
31.2	Certification of the Chief Financial Officer pursuant to Rules 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (1)
32.1	Certifications pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of The Sarbanes-Oxley Act of 2002, by John M. Leonard, M.D., President and Chief Executive Officer of the Company, and Glenn Goddard, Executive Vice President, Chief Financial Officer of the Company. (2)
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document. (1)
101.SCH	Inline XBRL Taxonomy Extension Schema Document. (1)
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document. (1)
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document. (1)
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document. (1)
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document. (1)
104	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101.*) (1)

(1) Filed with this Quarterly Report on Form 10-Q.

(2) The certifications furnished in Exhibit 32.1 hereto are deemed to accompany this Quarterly Report on Form 10-Q and will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent that the Registrant specifically incorporates it by reference.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: May 7, 2020

INTELLIA THERAPEUTICS, INC.

By: /s/ John M. Leonard
John M. Leonard, M.D.
President and Chief Executive Officer
(Principal Executive Officer)

By: /s/ Glenn G. Goddard
Glenn G. Goddard
Executive Vice President, Chief Financial Officer
(Principal Financial and Accounting Officer)

SECOND AMENDED AND RESTATED

BY-LAWS

OF

INTELLIA THERAPEUTICS, INC.

(the "Corporation")

ARTICLE I

Stockholders

SECTION 1. Annual Meeting. The annual meeting of stockholders (any such meeting being referred to in these By-laws as an "Annual Meeting") shall be held at the hour, date and place within or without the United States which is fixed by the Board of Directors, which time, date and place may subsequently be changed at any time by vote of the Board of Directors. If no Annual Meeting has been held for a period of thirteen (13) months after the Corporation's last Annual Meeting, a special meeting in lieu thereof may be held, and such special meeting shall have, for the purposes of these By-laws or otherwise, all the force and effect of an Annual Meeting. Any and all references hereafter in these By-laws to an Annual Meeting or Annual Meetings also shall be deemed to refer to any special meeting(s) in lieu thereof.

SECTION 2. Notice of Stockholder Business and Nominations.

(a) Annual Meetings of Stockholders.

(1) Nominations of persons for election to the Board of Directors of the Corporation and the proposal of other business to be considered by the stockholders may be brought before an Annual Meeting (i) by or at the direction of the Board of Directors or (ii) by any stockholder of the Corporation who was a stockholder of record at the time of giving of notice provided for in this By-law, who is entitled to vote at the meeting, who is present (in person or by proxy) at the meeting and who complies with the notice procedures set forth in this By-law as to such nomination or business. For the avoidance of doubt, the foregoing clause (ii) shall be the exclusive means for a stockholder to bring nominations or business properly before an Annual Meeting (other than matters properly brought under Rule 14a-8 (or any successor rule) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")), and such stockholder must comply with the notice and other procedures set forth in Article I, Section 2(a)(2) and (3) of this By-law to bring such nominations or business properly before an Annual Meeting. In addition to the other requirements set forth in this By-law, for any proposal of business to be considered at an Annual Meeting, it must be a proper subject for action by stockholders of the Corporation under Delaware law.

(2) For nominations or other business to be properly brought before an Annual Meeting by a stockholder pursuant to clause (ii) of Article I, Section 2(a)(1) of this By-law, the stockholder must (i) have given Timely Notice (as defined below) thereof in writing to the Secretary of the Corporation, (ii) have provided any updates or supplements to such notice at the times and in the forms required by this By-law and (iii) together with the beneficial owner(s), if any, on whose behalf the nomination or business proposal is made, have acted in accordance with the representations set forth in the Solicitation Statement (as defined below) required by this By-law. To be timely, a stockholder's written notice shall be received by the Secretary at the principal executive offices of the Corporation not later than the close of business on the ninetieth (90th) day nor earlier than the close of business on the one hundred twentieth (120th) day prior to the one-year anniversary of the preceding year's Annual Meeting; provided, however, that in the event the Annual Meeting is first convened more than thirty (30) days before or more than sixty (60) days after such anniversary date, or if no Annual Meeting were held in the preceding year, notice by the stockholder to be timely must be received by the Secretary of the Corporation not later than the close of business on the later of the ninetieth (90th) day prior to the scheduled date of such Annual Meeting or the tenth (10th) day following the day on which public announcement of the date of such meeting is first made (such notice within such time periods shall be referred to as "Timely Notice"). Notwithstanding anything to the contrary provided herein, for the first Annual Meeting following the initial public offering of common stock of the Corporation, a stockholder's notice shall be timely if received by the Secretary at the principal executive offices of the Corporation not later than the close of business on the later of the ninetieth (90th) day prior to the scheduled date of such Annual Meeting or the tenth (10th) day following the day on which public announcement of the date of such Annual Meeting is first made or sent by the Corporation. Such stockholder's Timely Notice shall set forth:

(A) as to each person whom the stockholder proposes to nominate for election or reelection as a director, all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors in an election contest, or is otherwise required, in each case pursuant to Regulation 14A under the Exchange Act (including such person's written consent to being named in the proxy statement as a nominee and to serving as a director if elected);

(B) as to any other business that the stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the reasons for conducting such business at the meeting, and any material interest in such business of each Proposing Person (as defined below);

(C) (i) the name and address of the stockholder giving the notice, as they appear on the Corporation's books, and the names and addresses of the other Proposing Persons (if any) and (ii) as to each Proposing Person, the following information: (a) the class or series and number of all shares of capital stock of the Corporation which are, directly or indirectly, owned beneficially or of record by such Proposing Person or any of its affiliates or associates (as such terms are defined in Rule 12b-2 promulgated under the Exchange Act), including any shares of any class or series of capital stock of the Corporation as to which such

Proposing Person or any of its affiliates or associates has a right to acquire beneficial ownership at any time in the future, (b) all Synthetic Equity Interests (as defined below) in which such Proposing Person or any of its affiliates or associates, directly or indirectly, holds an interest including a description of the material terms of each such Synthetic Equity Interest, including without limitation, identification of the counterparty to each such Synthetic Equity Interest and disclosure, for each such Synthetic Equity Interest, as to (x) whether or not such Synthetic Equity Interest conveys any voting rights, directly or indirectly, in such shares to such Proposing Person, (y) whether or not such Synthetic Equity Interest is required to be, or is capable of being, settled through delivery of such shares and (z) whether or not such Proposing Person and/or, to the extent known, the counterparty to such Synthetic Equity Interest has entered into other transactions that hedge or mitigate the economic effect of such Synthetic Equity Interest, (c) any proxy (other than a revocable proxy given in response to a public proxy solicitation made pursuant to, and in accordance with, the Exchange Act), agreement, arrangement, understanding or relationship pursuant to which such Proposing Person has or shares a right to, directly or indirectly, vote any shares of any class or series of capital stock of the Corporation, (d) any rights to dividends or other distributions on the shares of any class or series of capital stock of the Corporation, directly or indirectly, owned beneficially by such Proposing Person that are separated or separable from the underlying shares of the Corporation, and (e) any performance-related fees (other than an asset based fee) that such Proposing Person, directly or indirectly, is entitled to based on any increase or decrease in the value of shares of any class or series of capital stock of the Corporation or any Synthetic Equity Interests (the disclosures to be made pursuant to the foregoing clauses (a) through (e) are referred to, collectively, as "Material Ownership Interests") and (iii) a description of the material terms of all agreements, arrangements or understandings (whether or not in writing) entered into by any Proposing Person or any of its affiliates or associates with any other person for the purpose of acquiring, holding, disposing or voting of any shares of any class or series of capital stock of the Corporation;

(D) (i) a description of all agreements, arrangements or understandings by and among any of the Proposing Persons, or by and among any Proposing Persons and any other person (including with any proposed nominee(s)), pertaining to the nomination(s) or other business proposed to be brought before the meeting of stockholders (which description shall identify the name of each other person who is party to such an agreement, arrangement or understanding), and (ii) identification of the names and addresses of other stockholders (including beneficial owners) known by any of the Proposing Persons to support such nominations or other business proposal(s), and to the extent known the class and number of all shares of the Corporation's capital stock owned beneficially or of record by such other stockholder(s) or other beneficial owner(s); and

(E) a statement whether or not the stockholder giving the notice and/or the other Proposing Person(s), if any, will deliver a proxy statement and form of proxy to holders of, in the case of a business proposal, at least the percentage of voting power of all of the shares of capital stock of the Corporation required under applicable law to approve the proposal or, in the case of a nomination or nominations, at least the percentage of voting power of all of the shares of capital stock of the Corporation reasonably believed by such Proposing Person to be sufficient to elect the nominee or nominees proposed to be nominated by such stockholder (such statement, the "Solicitation Statement").

For purposes of this Article I of these By-laws, the term "Proposing Person" shall mean the following persons: (i) the stockholder of record providing the notice of nominations or business proposed to be brought before a stockholders' meeting, and (ii) the beneficial owner(s), if different, on whose behalf the nominations or business proposed to be brought before a stockholders' meeting is made. For purposes of this Section 2 of Article I of these By-laws, the term "Synthetic Equity Interest" shall mean any transaction, agreement or arrangement (or series of transactions, agreements or arrangements), including, without limitation, any derivative, swap, hedge, repurchase or so-called "stock borrowing" agreement or arrangement, the purpose or effect of which is to, directly or indirectly: (a) give a person or entity economic benefit and/or risk similar to ownership of shares of any class or series of capital stock of the Corporation, in whole or in part, including due to the fact that such transaction, agreement or arrangement provides, directly or indirectly, the opportunity to profit or avoid a loss from any increase or decrease in the value of any shares of any class or series of capital stock of the Corporation, (b) mitigate loss to, reduce the economic risk of or manage the risk of share price changes for, any person or entity with respect to any shares of any class or series of capital stock of the Corporation, (c) otherwise provide in any manner the opportunity to profit or avoid a loss from any decrease in the value of any shares of any class or series of capital stock of the Corporation, or (d) increase or decrease the voting power of any person or entity with respect to any shares of any class or series of capital stock of the Corporation.

(3) A stockholder providing Timely Notice of nominations or business proposed to be brought before an Annual Meeting shall further update and supplement such notice, if necessary, so that the information (including, without limitation, the Material Ownership Interests information) provided or required to be provided in such notice pursuant to this By-law shall be true and correct as of the record date for the meeting and as of the date that is ten (10) business days prior to such Annual Meeting, and such update and supplement shall be received by the Secretary at the principal executive offices of the Corporation not later than the close of business on the fifth (5th) business day after the record date for the Annual Meeting (in the case of the update and supplement required to be made as of the record date), and not later than the close of business on the eighth (8th) business day prior to the date of the Annual Meeting (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting).

(4) Notwithstanding anything in the second sentence of Article I, Section 2(a)(2) of this By-law to the contrary, in the event that the number of directors to be elected to the Board of Directors of the Corporation is increased and there is no public announcement naming all of the nominees for director or specifying the size of the increased Board of Directors made by the Corporation at least ten (10) days before the last day a stockholder may deliver a notice of nomination in accordance with the second sentence of Article I, Section 2(a)(2), a stockholder's notice required by this By-law shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be received by the Secretary of the Corporation not later than the close of business on the tenth (10th) day following the day on which such public announcement is first made by the Corporation.

(b) General.

(1) Only such persons who are nominated in accordance with the provisions of this By-law shall be eligible for election and to serve as directors and only such business shall be conducted at an Annual Meeting as shall have been brought before the meeting in accordance with the provisions of this By-law or in accordance with Rule 14a-8 under the Exchange Act. The Board of Directors or a designated committee thereof shall have the power to determine whether a nomination or any business proposed to be brought before the meeting was made in accordance with the provisions of this By-law. If neither the Board of Directors nor such designated committee makes a determination as to whether any stockholder proposal or nomination was made in accordance with the provisions of this By-law, the presiding officer of the Annual Meeting shall have the power and duty to determine whether the stockholder proposal or nomination was made in accordance with the provisions of this By-law. If the Board of Directors or a designated committee thereof or the presiding officer, as applicable, determines that any stockholder proposal or nomination was not made in accordance with the provisions of this By-law, such proposal or nomination shall be disregarded and shall not be presented for action at the Annual Meeting.

(2) Except as otherwise required by law, nothing in this Article I, Section 2 shall obligate the Corporation or the Board of Directors to include in any proxy statement or other stockholder communication distributed on behalf of the Corporation or the Board of Directors information with respect to any nominee for director or any other matter of business submitted by a stockholder.

(3) Notwithstanding the foregoing provisions of this Article I, Section 2, if the nominating or proposing stockholder (or a qualified representative of the stockholder) does not appear at the Annual Meeting to present a nomination or any business, such nomination or business shall be disregarded, notwithstanding that proxies in respect of such vote may have been received by the Corporation. For purposes of this Article I, Section 2, to be considered a qualified representative of the proposing stockholder, a person must be authorized by a written instrument executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the meeting of stockholders and such person must produce such written instrument or electronic transmission, or a reliable reproduction of the written instrument or electronic transmission, to the presiding officer at the meeting of stockholders.

(4) For purposes of this By-law, "public announcement" shall mean disclosure in a press release reported by the Dow Jones, Bloomberg, Associated Press or comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Exchange Act.

(5) Notwithstanding the foregoing provisions of this By-law, a stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to the matters set forth in this By-law. Nothing in this By-law shall be deemed to affect any rights of (i) stockholders to have proposals included in the Corporation's proxy statement pursuant to Rule 14a-8 (or any successor rule), as applicable, under the Exchange Act and, to the extent required by such rule, have such proposals considered and voted on at an Annual Meeting or (ii) the holders of any series of Undesignated Preferred Stock to elect directors under specified circumstances.

SECTION 3. Special Meetings. Except as otherwise required by statute and subject to the rights, if any, of the holders of any series of Undesignated Preferred Stock, special meetings of the stockholders of the Corporation may be called only by the Board of Directors acting pursuant to a resolution approved by the affirmative vote of a majority of the Directors then in office. The Board of Directors may postpone or reschedule any previously scheduled special meeting of stockholders. Only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders of the Corporation. Nominations of persons for election to the Board of Directors of the Corporation and stockholder proposals of other business shall not be brought before a special meeting of stockholders to be considered by the stockholders unless such special meeting is held in lieu of an annual meeting of stockholders in accordance with Article I, Section 1 of these By-laws, in which case such special meeting in lieu thereof shall be deemed an Annual Meeting for purposes of these By-laws and the provisions of Article I, Section 2 of these By-laws shall govern such special meeting.

SECTION 4. Notice of Meetings; Adjournments.

(a) A notice of each Annual Meeting stating the hour, date and place, if any, of such Annual Meeting and the means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting, shall be given not less than ten (10) days nor more than sixty (60) days before the Annual Meeting, to each stockholder entitled to vote thereat by delivering such notice to such stockholder or by mailing it, postage prepaid, addressed to such stockholder at the address of such stockholder as it appears on the Corporation's stock transfer books. Without limiting the manner by which notice may otherwise be given to stockholders, any notice to stockholders may be given by electronic transmission in the manner provided in Section 232 of the Delaware General Corporation Law ("DGCL").

(b) Notice of all special meetings of stockholders shall be given in the same manner as provided for Annual Meetings, except that the notice of all special meetings shall state the purpose or purposes for which the meeting has been called.

(c) Notice of an Annual Meeting or special meeting of stockholders need not be given to a stockholder if a waiver of notice is executed, or waiver of notice by electronic transmission is provided, before or after such meeting by such stockholder or if such stockholder attends such meeting, unless such attendance is for the express purpose of objecting at the beginning of the meeting to the transaction of any business because the meeting was not lawfully called or convened.

(d) The Board of Directors may postpone and reschedule any previously scheduled Annual Meeting or special meeting of stockholders and any record date with respect thereto, regardless of whether any notice or public disclosure with respect to any such meeting has been sent or made pursuant to Section 2 of this Article I of these By-laws or otherwise. In no event shall the public announcement of an adjournment, postponement or rescheduling of any previously scheduled meeting of stockholders commence a new time period for the giving of a stockholder's notice under this Article I of these By-laws.

(e) When any meeting is convened, the presiding officer may adjourn the meeting if (i) no quorum is present for the transaction of business, (ii) the Board of Directors determines that adjournment is necessary or appropriate to enable the stockholders to consider fully information which the Board of Directors determines has not been made sufficiently or timely available to stockholders, or (iii) the Board of Directors determines that adjournment is otherwise in the best interests of the Corporation. When any Annual Meeting or special meeting of stockholders is adjourned to another hour, date or place, notice need not be given of the adjourned meeting other than an announcement at the meeting at which the adjournment is taken of the hour, date and place, if any, to which the meeting is adjourned and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting; provided, however, that if the adjournment is for more than thirty (30) days from the meeting date, or if after the adjournment a new record date is fixed for the adjourned meeting, notice of the adjourned meeting and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting shall be given to each stockholder of record entitled to vote thereat and each stockholder who, by law or under the Amended and Restated Certificate of Incorporation of the Corporation (as the same may hereafter be amended and/or restated, the "Certificate") or these By-laws, is entitled to such notice.

SECTION 5. Quorum. A majority of the shares entitled to vote, present in person or represented by proxy, shall constitute a quorum at any meeting of stockholders. If less than a quorum is present at a meeting, the holders of voting stock representing a majority of the voting power present at the meeting or the presiding officer may adjourn the meeting from time to time, and the meeting may be held as adjourned without further notice, except as provided in Section 4 of this Article I. At such adjourned meeting at which a quorum is present, any business may be transacted which might have been transacted at the meeting as originally noticed. The stockholders present at a duly constituted meeting may continue to transact business until adjournment, notwithstanding the withdrawal of enough stockholders to leave less than a quorum.

SECTION 6. Voting and Proxies. Stockholders shall have one vote for each share of stock entitled to vote owned by them of record according to the stock ledger of the Corporation as of the record date, unless otherwise provided by law or by the Certificate. Stockholders may vote either (i) in person, (ii) by written proxy or (iii) by a transmission permitted by Section 212(c) of the DGCL. Any copy, facsimile telecommunication or other reliable reproduction of the writing or transmission permitted by Section 212(c) of the DGCL may be substituted for or used in lieu of the original writing or transmission for any and all purposes for which the original writing or transmission could be used, provided that such copy, facsimile telecommunication or other reproduction shall be a complete reproduction of the entire original writing or transmission. Proxies shall be filed in accordance with the procedures established for the meeting of stockholders. Except as otherwise limited therein or as otherwise provided by law, proxies authorizing a person to vote at a specific meeting shall entitle the persons authorized thereby to vote at any adjournment of such meeting, but they shall not be valid after final adjournment of such meeting. A proxy with respect to stock held in the name of two or more persons shall be valid if executed by or on behalf of any one of them unless at or prior to the exercise of the proxy the Corporation receives a specific written notice to the contrary from any one of them.

SECTION 7. Action at Meeting. When a quorum is present at any meeting of stockholders, any matter before any such meeting (other than an election of a director or directors) shall be decided by a majority of the votes properly cast for and against such matter, except where a larger vote is required by law, by the Certificate or by these By-laws. Any election of directors by stockholders shall be determined by a plurality of the votes properly cast on the election of directors.

SECTION 8. Stockholder Lists. The Secretary or an Assistant Secretary (or the Corporation’s transfer agent or other person authorized by these By-laws or by law) shall prepare and make, at least ten (10) days before every Annual Meeting or special meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for a period of at least ten (10) days prior to the meeting in the manner provided by law. The list shall also be open to the examination of any stockholder during the whole time of the meeting as provided by law.

SECTION 9. Presiding Officer. The Board of Directors shall designate a representative to preside over all Annual Meetings or special meetings of stockholders, provide that if the Board of Directors does not so designate such a presiding officer, then the Chairman of the Board, if one is elected, shall preside over such meetings. If the Board of Directors does not so designate such a presiding officer and there is no Chairman of the Board or the Chairman of the Board is unable to so preside or is absent, then the Chief Executive Officer, if one is elected, shall preside over such meetings, provided further that if there is no Chief Executive Officer or the Chief Executive Officer is unable to so preside or is absent, then the President shall preside over such meetings. The presiding officer at any Annual Meeting or special meeting of stockholders shall have the power, among other things, to adjourn such meeting at any time and from time to time, subject to Sections 4 and 5 of this Article I. The order of business and all other matters of procedure at any meeting of the stockholders shall be determined by the presiding officer.

SECTION 10. Inspectors of Elections. The Corporation shall, in advance of any meeting of stockholders, appoint one or more inspectors to act at the meeting and make a written report thereof. The Corporation may designate one or more persons as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is able to act at a meeting of stockholders, the presiding officer shall appoint one or more inspectors to act at the meeting. Any inspector may, but need not, be an officer, employee or agent of the Corporation. Each inspector, before entering upon the discharge of his or her duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his or her ability. The inspectors shall perform such duties as are required by the DGCL, including the counting of all votes and ballots. The inspectors may appoint or retain other persons or entities to assist the inspectors in the performance of the duties of the inspectors. The presiding officer may review all determinations made by the inspectors, and in so doing the presiding officer shall be entitled to exercise his or her sole judgment and discretion and he or she shall not be bound by any determinations made by the inspectors. All determinations by the inspectors and, if applicable, the presiding officer, shall be subject to further review by any court of competent jurisdiction.

ARTICLE II

Directors

SECTION 1. Powers. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors except as otherwise provided by the Certificate or required by law.

SECTION 2. Number and Terms. The number of directors of the Corporation shall be fixed solely and exclusively by resolution duly adopted from time to time by the Board of Directors. The directors shall hold office in the manner provided in the Certificate.

SECTION 3. Qualification. No director need be a stockholder of the Corporation.

SECTION 4. Vacancies. Vacancies in the Board of Directors shall be filled in the manner provided in the Certificate.

SECTION 5. Removal. Directors may be removed from office only in the manner provided in the Certificate.

SECTION 6. Resignation. A director may resign at any time by giving written notice to the Chairman of the Board, if one is elected, the President or the Secretary. A resignation shall be effective upon receipt, unless the resignation otherwise provides.

SECTION 7. Regular Meetings. The regular annual meeting of the Board of Directors shall be held, without notice other than this Section 7, on the same date and at the same place as the Annual Meeting following the close of such meeting of stockholders. Other regular meetings of the Board of Directors may be held at such hour, date and place as the Board of Directors may by resolution from time to time determine and publicize by means of reasonable notice given to any director who is not present at the meeting at which such resolution is adopted.

SECTION 8. Special Meetings. Special meetings of the Board of Directors may be called, orally or in writing, by or at the request of a majority of the directors, the Chairman of the Board, if one is elected, or the President. The person calling any such special meeting of the Board of Directors may fix the hour, date and place thereof.

SECTION 9. Notice of Meetings. Notice of the hour, date and place of all special meetings of the Board of Directors shall be given to each director by the Secretary or an Assistant Secretary, or in case of the death, absence, incapacity or refusal of such persons, by the Chairman of the Board, if one is elected, or the President or such other officer designated by the Chairman of the Board, if one is elected, or the President. Notice of any special meeting of the Board of Directors shall be given to each director in person, by telephone, or by facsimile, electronic mail or other form of electronic communication, sent to his or her business or home address, at least twenty-four (24) hours in advance of the meeting, or by written notice mailed to his or her business or home address, at least forty-eight (48) hours in advance of the meeting. Such notice shall be deemed to be delivered when hand-delivered to such address, read to such director by telephone, deposited in the mail so addressed, with postage thereon prepaid if mailed, dispatched or transmitted if sent by facsimile transmission or by electronic mail or other form of electronic communications. A written waiver of notice signed before or after a meeting by a director and filed with the records of the meeting shall be deemed to be equivalent to notice of the meeting. The attendance of a director at a meeting shall constitute a waiver of notice of such meeting, except where a director attends a meeting for the express purpose of objecting at the beginning of the meeting to the transaction of any business because such meeting is not lawfully called or convened. Except as otherwise required by law, by the Certificate or by these By-laws, neither the business to be transacted at, nor the purpose of, any meeting of the Board of Directors need be specified in the notice or waiver of notice of such meeting.

SECTION 10. Quorum. At any meeting of the Board of Directors, a majority of the total number of directors shall constitute a quorum for the transaction of business, but if less than a quorum is present at a meeting, a majority of the directors present may adjourn the meeting from time to time, and the meeting may be held as adjourned without further notice. Any business which might have been transacted at the meeting as originally noticed may be transacted at such adjourned meeting at which a quorum is present. For purposes of this section, the total number of directors includes any unfilled vacancies on the Board of Directors.

SECTION 11. Action at Meeting. At any meeting of the Board of Directors at which a quorum is present, the vote of a majority of the directors present shall constitute action by the Board of Directors, unless otherwise required by law, by the Certificate or by these By-laws.

SECTION 12. Action by Consent. Any action required or permitted to be taken at any meeting of the Board of Directors may be taken without a meeting if all members of the Board of Directors consent thereto in writing or by electronic transmission and the writing or writings or electronic transmission or transmissions are filed with the records of the meetings of the Board of Directors. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form. Such consent shall be treated as a resolution of the Board of Directors for all purposes.

SECTION 13. Manner of Participation. Directors may participate in meetings of the Board of Directors by means of conference telephone or other communications equipment by means of which all directors participating in the meeting can hear each other, and participation in a meeting in accordance herewith shall constitute presence in person at such meeting for purposes of these By-laws.

SECTION 14. Presiding Director. The Board of Directors shall designate a representative to preside over all meetings of the Board of Directors, provided that if the Board of Directors does not so designate such a presiding director or such designated presiding director is unable to so preside or is absent, then the Chairman of the Board, if one is elected, shall preside over all meetings of the Board of Directors. If both the designated presiding director, if one is so designated, and the Chairman of the Board, if one is elected, are unable to preside or are absent, the Board of Directors shall designate an alternate representative to preside over a meeting of the Board of Directors.

SECTION 15. Committees. The Board of Directors, by vote of a majority of the directors then in office, may elect one or more committees, including, without limitation, a Compensation Committee, a Nominating & Corporate Governance Committee and an Audit Committee, and may delegate thereto some or all of its powers except those which by law, by the Certificate or by these By-laws may not be delegated. Except as the Board of Directors may otherwise determine, any such committee may make rules for the conduct of its business, but unless otherwise provided by the Board of Directors or in such rules, its business shall be conducted so far as possible in the same manner as is provided by these By-laws for the Board of Directors. All members of such committees shall hold such offices at the pleasure of the Board of Directors. The Board of Directors may abolish any such committee at any time. Any committee to which the Board of Directors delegates any of its powers or duties shall keep records of its meetings and shall report its action to the Board of Directors.

SECTION 16. Compensation of Directors. Directors shall receive such compensation for their services as shall be determined by a majority of the Board of Directors, or a designated committee thereof, provided that directors who are serving the Corporation as employees and who receive compensation for their services as such, shall not receive any salary or other compensation for their services as directors of the Corporation.

ARTICLE III

Officers

SECTION 1. Enumeration. The officers of the Corporation shall consist of a President, a Treasurer, a Secretary and such other officers, including, without limitation, a Chairperson of the Board of Directors, a Chief Executive Officer and one or more Vice Presidents (including Executive Vice Presidents or Senior Vice Presidents), Assistant Vice Presidents, Assistant Treasurers and Assistant Secretaries, as the Board of Directors may determine.

SECTION 2. Election. At the regular annual meeting of the Board of Directors following the Annual Meeting, the Board of Directors shall elect the President, the Treasurer and the Secretary. Other officers may be elected by the Board of Directors at such regular annual meeting of the Board of Directors or at any other regular or special meeting.

SECTION 3. Qualification. No officer need be a stockholder or a director. Any person may occupy more than one office of the Corporation at any time.

SECTION 4. Tenure. Except as otherwise provided by the Certificate or by these By-laws, each of the officers of the Corporation shall hold office until the regular annual meeting of the Board of Directors following the next Annual Meeting and until his or her successor is elected and qualified or until his or her earlier resignation or removal.

SECTION 5. Resignation. Any officer may resign by delivering his or her written resignation to the Corporation addressed to the President or the Secretary, and such resignation shall be effective upon receipt, unless the resignation otherwise provides.

SECTION 6. Removal. Except as otherwise provided by law, the Board of Directors may remove any officer with or without cause by the affirmative vote of a majority of the directors then in office.

SECTION 7. Absence or Disability. In the event of the absence or disability of any officer, the Board of Directors may designate another officer to act temporarily in place of such absent or disabled officer.

SECTION 8. Vacancies. Any vacancy in any office may be filled for the unexpired portion of the term by the Board of Directors.

SECTION 9. President. The President shall, subject to the direction of the Board of Directors, have such powers and shall perform such duties as the Board of Directors may from time to time designate.

SECTION 10. Chairperson of the Board. The Chairperson of the Board, if one is elected, shall have such powers and shall perform such duties as the Board of Directors may from time to time designate.

SECTION 11. Chief Executive Officer. The Chief Executive Officer, if one is elected, shall have such powers and shall perform such duties as the Board of Directors may from time to time designate.

SECTION 12. Vice Presidents and Assistant Vice Presidents. Any Vice President (including any Executive Vice President or Senior Vice President) and any Assistant Vice President shall have such powers and shall perform such duties as the Board of Directors or the Chief Executive Officer may from time to time designate.

SECTION 13. Treasurer and Assistant Treasurers. The Treasurer shall, subject to the direction of the Board of Directors and except as the Board of Directors or the Chief Executive Officer may otherwise provide, have general charge of the financial affairs of the Corporation and shall cause to be kept accurate books of account. The Treasurer shall have custody of all funds, securities, and valuable documents of the Corporation. He or she shall have such other duties and powers as may be designated from time to time by the Board of Directors or the Chief Executive Officer. Any Assistant Treasurer shall have such powers and perform such duties as the Board of Directors or the Chief Executive Officer may from time to time designate.

SECTION 14. Secretary and Assistant Secretaries. The Secretary shall record all the proceedings of the meetings of the stockholders and the Board of Directors (including committees of the Board of Directors) in books kept for that purpose. In his or her absence from any such meeting, a temporary secretary chosen at the meeting shall record the proceedings thereof. The Secretary shall have charge of the stock ledger (which may, however, be kept by any transfer or other agent of the Corporation). The Secretary shall have custody of the seal of the Corporation, and the Secretary, or an Assistant Secretary shall have authority to affix it to any instrument requiring it, and, when so affixed, the seal may be attested by his or her signature or that of an Assistant Secretary. The Secretary shall have such other duties and powers as may be designated from time to time by the Board of Directors or the Chief Executive Officer. In the absence of the Secretary, any Assistant Secretary may perform his or her duties and responsibilities. Any Assistant Secretary shall have such powers and perform such duties as the Board of Directors or the Chief Executive Officer may from time to time designate.

SECTION 15. Other Powers and Duties. Subject to these By-laws and to such limitations as the Board of Directors may from time to time prescribe, the officers of the Corporation shall each have such powers and duties as generally pertain to their respective offices, as well as such powers and duties as from time to time may be conferred by the Board of Directors or the Chief Executive Officer.

ARTICLE IV

Capital Stock

SECTION 1. Certificates of Stock. Each stockholder shall be entitled to a certificate of the capital stock of the Corporation in such form as may from time to time be prescribed by the Board of Directors. Such certificate shall be signed by the Chairperson of the Board, the President or a Vice President and by the Treasurer or an Assistant Treasurer, or the Secretary or an Assistant Secretary. The Corporation seal and the signatures by the Corporation's officers, the transfer agent or the registrar may be facsimiles. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed on such certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if he or she were such officer, transfer agent or registrar at the time of its issue. Every certificate for shares of stock which are subject to any restriction on transfer and every certificate issued when the Corporation is authorized to issue more than one class or series of stock shall contain such legend with respect thereto as is

required by law. Notwithstanding anything to the contrary provided in these Bylaws, the Board of Directors of the Corporation may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be uncertificated shares (except that the foregoing shall not apply to shares represented by a certificate until such certificate is surrendered to the Corporation), and by the approval and adoption of these By-laws the Board of Directors has determined that all classes or series of the Corporation's stock may be uncertificated, whether upon original issuance, re-issuance, or subsequent transfer.

SECTION 2. Transfers. Subject to any restrictions on transfer and unless otherwise provided by the Board of Directors, shares of stock that are represented by a certificate may be transferred on the books of the Corporation by the surrender to the Corporation or its transfer agent of the certificate theretofore properly endorsed or accompanied by a written assignment or power of attorney properly executed, with transfer stamps (if necessary) affixed, and with such proof of the authenticity of signature as the Corporation or its transfer agent may reasonably require. Shares of stock that are not represented by a certificate may be transferred on the books of the Corporation by submitting to the Corporation or its transfer agent such evidence of transfer and following such other procedures as the Corporation or its transfer agent may require.

SECTION 3. Record Holders. Except as may otherwise be required by law, by the Certificate or by these By-laws, the Corporation shall be entitled to treat the record holder of stock as shown on its books as the owner of such stock for all purposes, including the payment of dividends and the right to vote with respect thereto, regardless of any transfer, pledge or other disposition of such stock, until the shares have been transferred on the books of the Corporation in accordance with the requirements of these By-laws.

SECTION 4. Record Date. In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date: (a) in the case of determination of stockholders entitled to vote at any meeting of stockholders, shall, unless otherwise required by law, not be more than sixty (60) nor less than ten (10) days before the date of such meeting and (b) in the case of any other action, shall not be more than sixty (60) days prior to such other action. If no record date is fixed: (i) the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held; and (ii) the record date for determining stockholders for any other purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

SECTION 5. Replacement of Certificates. In case of the alleged loss, destruction or mutilation of a certificate of stock of the Corporation, a duplicate certificate may be issued in place thereof, upon such terms as the Board of Directors may prescribe.

ARTICLE V

Indemnification

SECTION 1. Definitions. For purposes of this Article:

(a) "Corporate Status" describes the status of a person who is serving or has served (i) as a Director of the Corporation, (ii) as an Officer of the Corporation, (iii) as a Non-Officer Employee of the Corporation, or (iv) as a director, partner, trustee, officer, employee or agent of any other corporation, partnership, limited liability company, joint venture, trust, employee benefit plan, foundation, association, organization or other legal entity which such person is or was serving at the request of the Corporation. For purposes of this Section 1(a), a Director, Officer or Non-Officer Employee of the Corporation who is serving or has served as a director, partner, trustee, officer, employee or agent of a Subsidiary shall be deemed to be serving at the request of the Corporation. Notwithstanding the foregoing, "Corporate Status" shall not include the status of a person who is serving or has served as a director, officer, employee or agent of a constituent corporation absorbed in a merger or consolidation transaction with the Corporation with respect to such person's activities prior to said transaction, unless specifically authorized by the Board of Directors or the stockholders of the Corporation;

(b) "Director" means any person who serves or has served the Corporation as a director on the Board of Directors of the Corporation;

(c) "Disinterested Director" means, with respect to each Proceeding in respect of which indemnification is sought hereunder, a Director of the Corporation who is not and was not a party to such Proceeding;

(d) "Expenses" means all attorneys' fees, retainers, court costs, transcript costs, fees of expert witnesses, private investigators and professional advisors (including, without limitation, accountants and investment bankers), travel expenses, duplicating costs, printing and binding costs, costs of preparation of demonstrative evidence and other courtroom presentation aids and devices, costs incurred in connection with document review, organization, imaging and computerization, telephone charges, postage, delivery service fees, and all other disbursements, costs or expenses of the type customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, settling or otherwise participating in, a Proceeding;

(e) "Liabilities" means judgments, damages, liabilities, losses, penalties, excise taxes, fines and amounts paid in settlement;

(f) "Non-Officer Employee" means any person who serves or has served as an employee or agent of the Corporation, but who is not or was not a Director or Officer;

(g) "Officer" means any person who serves or has served the Corporation as an officer of the Corporation appointed by the Board of Directors of the Corporation;

(h) "Proceeding" means any threatened, pending or completed action, suit, arbitration, alternate dispute resolution mechanism, inquiry, investigation, administrative hearing or other proceeding, whether civil, criminal, administrative, arbitrative or investigative; and

(i) "Subsidiary" shall mean any corporation, partnership, limited liability company, joint venture, trust or other entity of which the Corporation owns (either directly or through or together with another Subsidiary of the Corporation) either (i) a general partner, managing member or other similar interest or (ii) (A) fifty percent (50%) or more of the voting power of the voting capital equity interests of such corporation, partnership, limited liability company, joint venture or other entity, or (B) fifty percent (50%) or more of the outstanding voting capital stock or other voting equity interests of such corporation, partnership, limited liability company, joint venture or other entity.

SECTION 2. Indemnification of Directors and Officers.

(a) Subject to the operation of Section 4 of this Article V of these By-laws, each Director and Officer shall be indemnified and held harmless by the Corporation to the fullest extent authorized by the DGCL, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than such law permitted the Corporation to provide prior to such amendment), and to the extent authorized in this Section 2.

(1) Actions, Suits and Proceedings Other than By or In the Right of the Corporation. Each Director and Officer shall be indemnified and held harmless by the Corporation against any and all Expenses and Liabilities that are incurred or paid by such Director or Officer or on such Director's or Officer's behalf in connection with any Proceeding or any claim, issue or matter therein (other than an action by or in the right of the Corporation), which such Director or Officer is, or is threatened to be made, a party to or participant in by reason of such Director's or Officer's Corporate Status, if such Director or Officer acted in good faith and in a manner such Director or Officer reasonably believed to be in or not opposed to the best interests of the Corporation and, with respect to any criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful.

(2) Actions, Suits and Proceedings By or In the Right of the Corporation. Each Director and Officer shall be indemnified and held harmless by the Corporation against any and all Expenses that are incurred by such Director or Officer or on such Director's or Officer's behalf in connection with any Proceeding or any claim, issue or matter therein by or in the right of the Corporation, which such Director or Officer is, or is threatened to be made, a party to or participant in by reason of such Director's or Officer's Corporate Status, if such Director or Officer acted in good faith and in a manner such Director or Officer reasonably believed to be in or not opposed to the best interests of the Corporation; provided, however, that no indemnification shall be made under this Section 2(a)(2) in respect of any claim, issue or matter as to which such Director or Officer shall have been finally adjudged by a court of competent jurisdiction to be liable to the Corporation, unless, and only to the extent that, the Court of Chancery or another court in which such Proceeding was brought shall determine upon application that, despite adjudication of liability, but in view of all the circumstances of the case, such Director or Officer is fairly and reasonably entitled to indemnification for such Expenses that such court deems proper.

(3) Survival of Rights. The rights of indemnification provided by this Section 2 shall continue as to a Director or Officer after he or she has ceased to be a Director or Officer and shall inure to the benefit of his or her heirs, executors, administrators and personal representatives.

(4) Actions by Directors or Officers. Notwithstanding the foregoing, the Corporation shall indemnify any Director or Officer seeking indemnification in connection with a Proceeding initiated by such Director or Officer only if such Proceeding (including any parts of such Proceeding not initiated by such Director or Officer) was authorized in advance by the Board of Directors of the Corporation, unless such Proceeding was brought to enforce such Officer's or Director's rights to indemnification or, in the case of Directors, advancement of Expenses under these By-laws in accordance with the provisions set forth herein.

SECTION 3. Indemnification of Non-Officer Employees. Subject to the operation of Section 4 of this Article V of these By-laws, each Non-Officer Employee may, in the discretion of the Board of Directors of the Corporation, be indemnified by the Corporation to the fullest extent authorized by the DGCL, as the same exists or may hereafter be amended, against any or all Expenses and Liabilities that are incurred by such Non-Officer Employee or on such Non-Officer Employee's behalf in connection with any threatened, pending or completed Proceeding, or any claim, issue or matter therein, which such Non-Officer Employee is, or is threatened to be made, a party to or participant in by reason of such Non-Officer Employee's Corporate Status, if such Non-Officer Employee acted in good faith and in a manner such Non-Officer Employee reasonably believed to be in or not opposed to the best interests of the Corporation and, with respect to any criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful. The rights of indemnification provided by this Section 3 shall exist as to a Non-Officer Employee after he or she has ceased to be a Non-Officer Employee and shall inure to the benefit of his or her heirs, personal representatives, executors and administrators. Notwithstanding the foregoing, the Corporation may indemnify any Non-Officer Employee seeking indemnification in connection with a Proceeding initiated by such Non-Officer Employee only if such Proceeding was authorized in advance by the Board of Directors of the Corporation.

SECTION 4. Determination. Unless ordered by a court, no indemnification shall be provided pursuant to this Article V to a Director, to an Officer or to a Non-Officer Employee unless a determination shall have been made that such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the Corporation and, with respect to any criminal Proceeding, such person had no reasonable cause to believe his or her conduct was unlawful. Such determination shall be made by (a) a majority vote of the Disinterested Directors, even though less than a quorum of the Board of Directors, (b) a committee comprised of Disinterested Directors, such committee having been designated by a majority vote of the Disinterested Directors (even though less than a quorum), (c) if there are no such Disinterested Directors, or if a majority of Disinterested Directors so directs, by independent legal counsel in a written opinion, or (d) by the stockholders of the Corporation.

SECTION 5. Advancement of Expenses to Directors Prior to Final Disposition.

(a) The Corporation shall advance all Expenses incurred by or on behalf of any Director in connection with any Proceeding in which such Director is involved by reason of such Director's Corporate Status within thirty (30) days after the receipt by the Corporation of a written statement from such Director requesting such advance or advances from time to time, whether prior to or after final disposition of such Proceeding. Such statement or statements shall reasonably evidence the Expenses incurred by such Director and shall be preceded or accompanied by an undertaking by or on behalf of such Director to repay any Expenses so advanced if it shall ultimately be determined that such Director is not entitled to be indemnified against such Expenses. Notwithstanding the foregoing, the Corporation shall advance all Expenses incurred by or on behalf of any Director seeking advancement of expenses hereunder in connection with a Proceeding initiated by such Director only if such Proceeding (including any parts of such Proceeding not initiated by such Director) was (i) authorized by the Board of Directors of the Corporation, or (ii) brought to enforce such Director's rights to indemnification or advancement of Expenses under these By-laws.

(b) If a claim for advancement of Expenses hereunder by a Director is not paid in full by the Corporation within thirty (30) days after receipt by the Corporation of documentation of Expenses and the required undertaking, such Director may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim and if successful in whole or in part, such Director shall also be entitled to be paid the expenses of prosecuting such claim. The failure of the Corporation (including its Board of Directors or any committee thereof, independent legal counsel, or stockholders) to make a determination concerning the permissibility of such advancement of Expenses under this Article V shall not be a defense to an action brought by a Director for recovery of the unpaid amount of an advancement claim and shall not create a presumption that such advancement is not permissible. The burden of proving that a Director is not entitled to an advancement of expenses shall be on the Corporation.

(c) In any suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation shall be entitled to recover such expenses upon a final adjudication that the Director has not met any applicable standard for indemnification set forth in the DGCL.

SECTION 6. Advancement of Expenses to Officers and Non-Officer Employees Prior to Final Disposition.

(a) The Corporation may, at the discretion of the Board of Directors of the Corporation, advance any or all Expenses incurred by or on behalf of any Officer or any Non-Officer Employee in connection with any Proceeding in which such person is involved by reason of his or her Corporate Status as an Officer or Non-Officer Employee upon the receipt by the Corporation of a statement or statements from such Officer or Non-Officer Employee requesting such advance or advances from time to time, whether prior to or after final disposition of such Proceeding. Such statement or statements shall reasonably evidence the Expenses incurred by such Officer or Non-Officer Employee and shall be preceded or accompanied by an undertaking by or on behalf of such person to repay any Expenses so advanced if it shall ultimately be determined that such Officer or Non-Officer Employee is not entitled to be indemnified against such Expenses.

(b) In any suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation shall be entitled to recover such expenses upon a final adjudication that the Officer or Non-Officer Employee has not met any applicable standard for indemnification set forth in the DGCL.

SECTION 7. Contractual Nature of Rights.

(a) The provisions of this Article V shall be deemed to be a contract between the Corporation and each Director and Officer entitled to the benefits hereof at any time while this Article V is in effect, in consideration of such person's past or current and any future performance of services for the Corporation. Neither amendment, repeal or modification of any provision of this Article V nor the adoption of any provision of the Certificate of Incorporation inconsistent with this Article V shall eliminate or reduce any right conferred by this Article V in respect of any act or omission occurring, or any cause of action or claim that accrues or arises or any state of facts existing, at the time of or before such amendment, repeal, modification or adoption of an inconsistent provision (even in the case of a proceeding based on such a state of facts that is commenced after such time), and all rights to indemnification and advancement of Expenses granted herein or arising out of any act or omission shall vest at the time of the act or omission in question, regardless of when or if any proceeding with respect to such act or omission is commenced. The rights to indemnification and to advancement of expenses provided by, or granted pursuant to, this Article V shall continue notwithstanding that the person has ceased to be a director or officer of the Corporation and shall inure to the benefit of the estate, heirs, executors, administrators, legatees and distributes of such person.

(b) If a claim for indemnification hereunder by a Director or Officer is not paid in full by the Corporation within sixty (60) days after receipt by the Corporation of a written claim for indemnification, such Director or Officer may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim, and if successful in whole or in part, such Director or Officer shall also be entitled to be paid the expenses of prosecuting such claim. The failure of the Corporation (including its Board of Directors or any committee thereof, independent legal counsel, or stockholders) to make a determination concerning the permissibility of such indemnification under this Article V shall not be a defense to an action brought by a Director or Officer for recovery of the unpaid amount of an indemnification claim and shall not create a presumption that such indemnification is not permissible. The burden of proving that a Director or Officer is not entitled to indemnification shall be on the Corporation.

(c) In any suit brought by a Director or Officer to enforce a right to indemnification hereunder, it shall be a defense that such Director or Officer has not met any applicable standard for indemnification set forth in the DGCL.

SECTION 8. Non-Exclusivity of Rights. The rights to indemnification and to advancement of Expenses set forth in this Article V shall not be exclusive of any other right which any Director, Officer, or Non-Officer Employee may have or hereafter acquire under any statute, provision of the Certificate or these By-laws, agreement, vote of stockholders or Disinterested Directors or otherwise.

SECTION 9. Insurance. The Corporation may maintain insurance, at its expense, to protect itself and any Director, Officer or Non-Officer Employee against any liability of any character asserted against or incurred by the Corporation or any such Director, Officer or Non-Officer Employee, or arising out of any such person's Corporate Status, whether or not the Corporation would have the power to indemnify such person against such liability under the DGCL or the provisions of this Article V.

SECTION 10. Other Indemnification. The Corporation's obligation, if any, to indemnify or provide advancement of Expenses to any person under this Article V as a result of such person serving, at the request of the Corporation, as a director, partner, trustee, officer, employee or agent of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise shall be reduced by any amount such person may collect as indemnification or advancement of Expenses from such other corporation, partnership, joint venture, trust, employee benefit plan or enterprise (the "Primary Indemnitor"). Any indemnification or advancement of Expenses under this Article V owed by the Corporation as a result of a person serving, at the request of the Corporation, as a director, partner, trustee, officer, employee or agent of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise shall only be in excess of, and shall be secondary to, the indemnification or advancement of Expenses available from the applicable Primary Indemnitor(s) and any applicable insurance policies.

ARTICLE VI

Miscellaneous Provisions

SECTION 1. Fiscal Year. The fiscal year of the Corporation shall be determined by the Board of Directors.

SECTION 2. Seal. The Board of Directors shall have power to adopt and alter the seal of the Corporation.

SECTION 3. Execution of Instruments. All deeds, leases, transfers, contracts, bonds, notes and other obligations to be entered into by the Corporation in the ordinary course of its business without director action may be executed on behalf of the Corporation by the Chairman of the Board, if one is elected, the President or the Treasurer or any other officer, employee or agent of the Corporation as the Board of Directors or the executive committee of the Board may authorize.

SECTION 4. Voting of Securities. Unless the Board of Directors otherwise provides, the Chairman of the Board, if one is elected, the President or the Treasurer may waive notice of and act on behalf of the Corporation, or appoint another person or persons to act as proxy or attorney in fact for the Corporation with or without discretionary power and/or power of substitution, at any meeting of stockholders or shareholders of any other corporation or organization, any of whose securities are held by the Corporation.

SECTION 5. Resident Agent. The Board of Directors may appoint a resident agent upon whom legal process may be served in any action or proceeding against the Corporation.

SECTION 6. Corporate Records. The original or attested copies of the Certificate, By-laws and records of all meetings of the incorporators, stockholders and the Board of Directors and the stock transfer books, which shall contain the names of all stockholders, their record addresses and the amount of stock held by each, may be kept outside the State of Delaware and shall be kept at the principal office of the Corporation, at an office of its counsel, at an office of its transfer agent or at such other place or places as may be designated from time to time by the Board of Directors.

SECTION 7. Certificate. All references in these By-laws to the Certificate shall be deemed to refer to the Amended and Restated Certificate of Incorporation of the Corporation, as amended and/or restated and in effect from time to time.

SECTION 8. Exclusive Jurisdiction of Delaware Courts or the United States District Court for the District of Massachusetts. Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for any state law claims for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of or based on a fiduciary duty owed by any current or former director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim against the Corporation or any current or former director, officer, or other employee or stockholder of the Corporation arising pursuant to any provision of the Delaware General Corporation Law or the Certificate or By-laws, or (iv) any action asserting a claim against the Corporation governed by the internal affairs doctrine. Unless the Corporation consents in writing to the selection of an alternative forum, the United States District Court for the District of Massachusetts shall be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act of 1933, as amended. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Section 8.

SECTION 9. Amendment of By-laws.

(a) Amendment by Directors. Except as provided otherwise by law, these By-laws may be amended or repealed by the Board of Directors by the affirmative vote of a majority of the directors then in office.

(b) Amendment by Stockholders. These By-laws may be amended or repealed at any Annual Meeting, or special meeting of stockholders called for such purpose in accordance with these By-Laws, by the affirmative vote of at least seventy-five percent (75%) of the outstanding shares entitled to vote on such amendment or repeal, voting together as a single class; provided, however, that if the Board of Directors recommends that stockholders approve such amendment or repeal at such meeting of stockholders, such amendment or repeal shall only require the affirmative vote of the majority of the outstanding shares entitled to vote on such amendment or repeal, voting together as a single class. Notwithstanding the foregoing, stockholder approval shall not be required unless mandated by the Certificate, these By-laws, or other applicable law.

SECTION 10. Notices. If mailed, notice to stockholders shall be deemed given when deposited in the mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the records of the Corporation. Without limiting the manner by which notice otherwise may be given to stockholders, any notice to stockholders may be given by electronic transmission in the manner provided in Section 232 of the DGCL.

SECTION 11. Waivers. A written waiver of any notice, signed by a stockholder or director, or waiver by electronic transmission by such person, whether given before or after the time of the event for which notice is to be given, shall be deemed equivalent to the notice required to be given to such person. Neither the business to be transacted at, nor the purpose of, any meeting need be specified in such a waiver.

Adopted January 19, 2016, subject to effectiveness of the Corporation's Registration Statement on Form S-1.

Amended by the Amendment to the Bylaws approved by the Board Directors on April 3, 2020.

EXHIBIT 10.1

EXECUTION COPY

281 ALBANY STREET
CAMBRIDGE, MASSACHUSETTS

LEASE SUMMARY SHEET

Execution Date:	March 12, 2020
Tenant:	Intellia Therapeutics, Inc., a Delaware corporation
Tenant's Mailing Address:	40 Erie Street Cambridge, Massachusetts 02139
Landlord:	281-295 Albany Street Leasehold LLC, a Massachusetts limited liability company
Building:	281 Albany Street, Cambridge, Massachusetts. The Building consists of approximately 39,000 rentable square feet, subject to re-measurement as set forth in Section 25.16 below. The land on which the Building is located (the "**Land**") is more particularly described in Exhibit 1 attached hereto and made a part hereof. The Building and the Land are collectively hereinafter referred to as the "**Property**").
Premises:	Approximately 39,000 rentable square feet of space on the first (1st) and second (2nd) floors of the Building subject to re-measurement as set forth in Section 25.16 below, as more particularly shown on Exhibit 2 attached hereto and made a part hereof. The Premises constitute one hundred percent (100%) of the rentable area of the Building.
Commencement Date:	The date on which the Premises are delivered to Tenant with Landlord's Base Building Work (as hereinafter defined) Substantially Completed (as hereinafter defined). The Commencement Date is estimated to occur on October 1, 2020.
Rent Commencement Date:	The earlier of (a) the date Tenant occupies the Premises for the Permitted Use and (b) the date that is six (6) months after the Commencement Date, subject to adjustment as set forth in Section 3.1 or 19.2 below.
Expiration Date:	The last day of the tenth (10th) Rent Year.[1]
Extension Term(s):	Subject to Section 1.2 below, two (2) extension terms of five (5) years each.

[1] For the purposes of this Lease, the first "**Rent Year**" shall be defined as the period commencing as of the Rent Commencement Date and ending on the last day of the month in which the first (1st) anniversary of the Rent Commencement Date occurs; provided, however, if the Rent Commencement Date occurs on the first day of a calendar month, then the first Rent Year shall expire on the day immediately preceding the first (1st) anniversary of the Rent Commencement Date. Thereafter, "Rent Year" shall be defined as any subsequent twelve (12) month period during the term of this Lease.

TI Allowance: Subject to the terms of the Work Letter attached hereto as Exhibit 3, Four Million Four Hundred Twenty Six Thousand Five Hundred and 00/100 Dollars ($4,426,500.00), subject to adjustment as a result of re-measurement as set forth in Section 25.16 below.

Permitted Uses: Subject to Legal Requirements (hereinafter defined), general office, research, development and laboratory uses and uses accessory thereto in proportions consistent with the design of the Building.

Base Rent:

RENT YEAR	ANNUAL BASE RENT	MONTHLY PAYMENT	$/RSF
1	$3,861,000.00	$321,750.00	$99.00
2	$3,975,660.00	$331,305.00	$101.94
3	$4,093,830.00	$341,152.50	$104.97
4	$4,215,510.00	$351,292.50	$108.09
5	$4,340,700.00	$361,725.00	$111.30
6	$4,469,790.00	$372,482.50	$114.61
7	$4,602,780.00	$383,565.00	$118.02
8	$4,739,670.00	$394,972.50	$121.53
9	$4,880,460.00	$406,705.00	$125.14
10	$5,025,930.00	$418,827.50	$128.87

The Base Rent for each Extension Term shall be calculated as set forth in Section 1.2 hereof.

Operating Costs and Taxes: See Sections 5.2 and 5.3

Security Deposit/ Letter of Credit: Subject to Section 7.1 below, $1,911,000.00.

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THIS INDENTURE OF LEASE (this "**Lease**") is hereby made and entered into on the Execution Date by and between Landlord and Tenant.

This Lease and all of its terms, covenants, representations, warranties, agreements and conditions are in all respects subject and subordinate to that certain Amended and Restated Master Lease Agreement dated as of January 1, 2015 by and between MIT 281-295 Albany Street LLC ("**Ground Lessor**"), as landlord, and Landlord, as tenant (as it may be amended from time to time, the "**Master Lease**").

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. All capitalized terms not otherwise defined herein shall have the meanings ascribed to them as set forth in the Lease Summary Sheet which is attached hereto and incorporated herein by reference.

1. LEASE GRANT; TERM; APPURTENANT RIGHTS; EXCLUSIONS

1.1 Lease Grant

Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, the Premises upon and subject to terms and conditions of this Lease, for a term of years commencing on the Commencement Date and, unless earlier terminated or extended pursuant to the terms hereof, ending on the Expiration Date (the "**Initial Term**"; the Initial Term and each of the Extension Terms, if duly exercised, are hereinafter collectively referred to as the "**Term**"). Once the Commencement Date is determined, Landlord and Tenant shall execute an agreement confirming the Commencement Date and the Expiration Date, in substantially the form attached hereto as Exhibit 4. Tenant's failure to execute and return any such agreement proposed by Landlord, or to provide written objection to the statements contained therein, within ten (10) business days after the date of Tenant's receipt thereof, shall be deemed an approval by Tenant of Landlord's determination of such dates as set forth therein.

1.2 Extension Terms.

(a) Provided that the following conditions (the "**Extension Conditions**"), any or all of which may be waived by Landlord in its sole discretion, are satisfied: (i) Tenant, an Affiliated Entity (hereinafter defined) and/or a Successor (hereinafter defined) is/are then occupying at least seventy-five percent (75%) of the Premises; and (ii) there is no Event of Default (1) as of the date of an Extension Notice (hereinafter defined), and (2) at the commencement of an Extension Term (hereinafter defined), Tenant shall have the option to extend the Initial Term for two (2) additional consecutive terms of five (5) years each (each individually, an "**Extension Term**", and collectively, the "**Extension Terms**"), commencing as of the expiration of the Initial Term. Tenant must exercise each option to extend, if at all, by giving Landlord written notice (the "**Extension Notice**") not earlier than fifteen (15) months and no later than twelve (12) months prior to the expiration of the Initial Term or the first Extension Term, as the case may be, time being of the essence in each instance. Notwithstanding the foregoing, Landlord may nullify Tenant's exercise of its option to extend the Term by written notice to Tenant (the "**Nullification Notice**") if (A) on the date Landlord receives the Extension Notice, there is an event which, with the passage of time and/or the giving of notice, would constitute an Event of Default hereunder and (B) Tenant fails to cure such default within the applicable cure period set forth in Section 20.1 after receipt of the Nullification Notice. Upon the satisfaction of the Extension Conditions and the timely giving of the Extension Notice without a subsequent nullification by Landlord, the Term shall be deemed extended upon all of the terms and conditions of this Lease, except that Base Rent during the each of the Extension Terms shall be calculated in accordance with this Section 1.2. If Tenant fails to give a timely Extension Notice, as aforesaid, Tenant shall have no further right to extend the Initial Term. Notwithstanding the fact that Tenant's proper and timely exercise of such option to extend the Initial Term shall be self-executing, Tenant shall promptly execute a lease amendment reflecting such Extension Term after Tenant validly exercises its option, if such lease amendment is provided by Landlord. 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 Section 1.2.

(b) The Base Rent during the first Rent Year of the each of the Extension Terms (the "**Extension Term RY1 Base Rent**") shall be determined in accordance with the process described hereafter. Extension Term RY1 Base Rent shall be the greater of (i) one hundred three percent (103%) of Base Rent for the last Rent Year of the Initial Term or the first Extension Term, as applicable, or (ii) the fair market rental value of the Premises as of the commencement of the applicable Extension Term as determined in accordance with the process described below, for renewals of combination laboratory and office space in the East Cambridge/ Cambridgeport area of equivalent quality, size, utility and location, with the length of the Extension Term, the credit standing of Tenant and all other relevant factors to be taken into account. Within thirty (30) days after receipt of an Extension Notice, Landlord shall deliver to Tenant written notice of its determination of the Extension Term RY1 Base Rent for the applicable Extension Term. Tenant shall, within thirty (30) days after receipt of such notice, notify Landlord in writing whether Tenant accepts or rejects Landlord's determination of the Extension Term RY1 Base Rent ("**Tenant's Response Notice**"). If Tenant fails timely to deliver Tenant's Response Notice, Landlord's determination of the Extension Term RY1 Base Rent shall be binding on Tenant.

(c) If and only if Tenant's Response Notice is timely delivered to Landlord and indicates both that Tenant rejects Landlord's determination of the Extension Term RY1 Base Rent and desires to submit the matter to the determination process described in this Section 1.2(c) (the "**Determination Process**"), then the Extension Term RY1 Base Rent shall be determined in accordance with the procedure set forth in this Section 1.2(c). In such event, within ten (10) days after receipt by Landlord of Tenant's Response Notice indicating Tenant's desire to submit the determination of the Extension Term RY1 Base Rent to the Determination Process, Tenant and Landlord shall each notify the other, in writing, of their respective selections of an appraiser or broker (respectively, "**Landlord's Appraiser**" and "**Tenant's Appraiser**"). Landlord's Appraiser and Tenant's Appraiser shall then jointly select a third appraiser or broker (the "**Third Appraiser**") within ten (10) days of their appointment. All of the appraisers or brokers selected shall be individuals with at least ten (10) consecutive years' commercial appraisal or brokerage experience in the East Cambridge/Cambridgeport area, and, in the case of the Third Appraiser, shall not have acted in any capacity for either Landlord or Tenant within five (5) years of his or her selection. The three appraisers or brokers shall determine the Extension Term RY1 Base Rent in accordance with the requirements and criteria set forth in Section 1.2(b) above, employing the method commonly known as *Baseball Arbitration*, whereby Landlord's Appraiser and Tenant's Appraiser each sets forth its determination of the Extension Term RY1 Base Rent as defined above, and the Third Appraiser must select one or the other (it being understood that the Third Appraiser shall be expressly prohibited from selecting a compromise figure). Landlord's Appraiser and Tenant's Appraiser shall deliver their determinations of the Extension Term RY1 Base Rent to the Third Appraiser within five (5) days of the appointment of the Third Appraiser and the Third Appraiser shall render his or her decision within ten (10) days after receipt of both of the other two determinations of the Extension Term RY1 Base Rent. The Third Appraiser's decision shall be binding on both Landlord and Tenant. Each party shall bear the cost of its own appraiser or broker and the cost of the Third Appraiser shall be paid by the party whose determination is not selected.

(d) Commencing on the first day of the second Rent Year of each Extension Term, Base Rent shall increase annually by three percent (3%), effective as of the first day of each Rent Year.

1.3 Notice of Lease

Neither party shall record this Lease, but each of the parties hereto agrees to join in the execution of a statutory notice of lease in substantially the form attached hereto as Exhibit 5, which notice of lease may be recorded by Tenant with the Middlesex South Registry of Deeds and/or filed with the Registry District of the Land Court, as appropriate (collectively, the "**Registry**") at Tenant's sole cost and expense. If a notice of lease was previously recorded with the Registry, upon the expiration or earlier termination

of this Lease, Landlord shall deliver to Tenant a notice of termination of lease and Tenant shall promptly execute, acknowledge and deliver the same (together with any other instrument(s) that may be necessary in order to record and/or file the same with the Registry) to Landlord for Landlord's execution and recordation with the Registry, which obligation shall survive the expiration or earlier termination of the Lease. If Tenant fails to deliver the executed notice of termination of lease within ten (10) days of receipt thereof, time being of the essence, Tenant hereby appoints Landlord as Tenant's attorney-in-fact to execute the same, such appointment being coupled with an interest.

1.4 Appurtenant Rights.

(a) Common Areas. Subject to the terms of this Lease and the Rules and Regulations (hereinafter defined), Tenant shall have, as appurtenant to the Premises, rights to use (i) the loading dock(s), elevators and stairways of the Building, (ii) the common walkways necessary for access to the Building, and (iii) the risers of the Building for the installation of tel/data conduits and cabling Property (such areas are hereinafter referred to as the "**Common Areas**"); and no other appurtenant rights or easements, except as provided in Section 1.4(b) below.

(b) Parking. During the Term, commencing on the Commencement Date, Tenant shall have the exclusive right to use the entire surface lot serving the Building (the "**Parking Area**"), which consists of twenty-three (23) parking spaces (the "**Parking Rights**"), for the parking of passenger vehicles by Tenant's employees and guests and the employees and guests of any transferee pursuant to a Transfer permitted by Article 13 of this Lease ("**Permitted Pass Holders**"). Landlord shall provide twenty-three (23) parking passes, stickers, or other methods of access, as determined by Landlord and/or Landlord's parking operator, to accommodate parking in the Parking Area to Tenant for Tenant's use to provide to Permitted Pass Holders. Tenant shall not sublet, assign, encumber, pledge or otherwise transfer the Parking Rights except in connection with a Transfer permitted by Article 13 of this Lease. During the Term, commencing on the Commencement Date, Tenant shall pay Landlord (or at Landlord's election, directly to the parking operator, if any) for the Parking Rights at the then-current prevailing rate, as such rate may vary from time to time. As of the Execution Date, the monthly charge for parking is Two Hundred Fifty Dollars ($250) per parking space per month. Landlord shall deliver (or cause to be delivered) written notice to Tenant of any change in the monthly parking charge. If, for any reason, Tenant shall fail timely to pay the charge for any of said Parking Passes, and if such default continues for ten (10) days after written notice thereof it shall constitute an Event of Default hereunder. Use of the Parking Area will be subject to such reasonable rules and regulations as may be in effect from time to time (including Landlord's right, without additional charge to Tenant above the prevailing rate for the Parking Rights, to institute a valet or attendant-managed parking system). Tenant shall provide Landlord and/or the operator of the Parking Area with such information as may be reasonably requested, including a monthly identification roster listing for each Permitted Pass Holder, indicating the name of the employee and the make, color and registration number of the vehicle to be parked in the Parking Area. Except to the extent prohibited by Legal Requirements, neither Landlord nor the operator of the Parking Area assumes any responsibility whatsoever for loss or damage due to casualty or theft or otherwise to any automobile (or to any personal property therein) accessing or using the Parking Area, howsoever caused, and Tenant agrees to notify each Permitted Pass Holder of such limitation of liability. No bailment is intended or shall be created by the provision of, or use of, the parking privileges described herein. Notwithstanding anything to the contrary contained herein, in the event the Landlord elects to use the Parking Area for non-parking purposes Landlord shall have the right to relocate the parking privileges from time to time to parking areas at other properties owned, leased or controlled by Landlord or its affiliates, so long as such other property is within 1,000 feet of the Land, in which case such relocated parking areas shall be deemed the "Parking Area" for purposes of this Lease. In addition to the foregoing, Landlord shall use commercially reasonable efforts to make available to Tenant up to twelve (12) additional parking spaces (the "**Off Site Parking Spaces**") in one or more parking areas owned or

controlled by Landlord or its affiliates in the vicinity of the Building to the extent such additional parking spaces are available. Tenant shall pay the monthly parking fee then being charged by the owner(s) or operator(s) of such Off Site Parking Spaces, as may be adjusted from time to time upon prior written notice to Tenant, directly to such owner(s) or operator(s), or as may otherwise be directed in writing by Landlord. Landlord reserves the right to terminate Tenant's right to use any or all of the Off Site Parking Spaces upon prior written notice to Tenant in the event the owner of any Off Site Parking Spaces elects to use such Off Site Parking Spaces for non-parking purposes or if such Off Site Parking spaces become unavailable to Landlord.

(c) Roof. Tenant may use those portions of the Building identified as a "Rooftop Installation Area" on Exhibit 2 attached hereto (the "**Rooftop Installation Area**") solely to operate, maintain, repair and replace rooftop antennas, mechanical equipment, communications antennas and other equipment installed by Tenant in the Rooftop Installation Area in accordance with this Article ("**Tenant's Rooftop Equipment**"). Tenant's Rooftop Equipment shall be only for Tenant's use of the Premises for the Permitted Use.

Tenant shall install Tenant's Rooftop Equipment at its sole cost and expense, at such times and in such manner as Landlord may reasonably designate, and in accordance with this Article and the applicable provisions of this Lease regarding Alterations. Tenant's Rooftop Equipment and the installation thereof shall be subject to Landlord's prior written approval, which approval shall not be unreasonably withheld. Among other reasons, Landlord may withhold approval if the installation or operation of Tenant's Rooftop Equipment could reasonably be expected to damage the structural integrity of the Building or to transmit vibrations or noise or cause other adverse effects beyond the Premises to an extent not customary in first class combination office and laboratory buildings, unless Tenant implements measures that are acceptable to Landlord in its reasonable discretion to avoid any such damage or transmission.

Tenant shall comply with any roof or roof-related warranties. Tenant shall obtain a letter from Landlord's roofing contractor within thirty (30) days after completion of any Tenant work on the rooftop stating that such work did not affect any such warranties. Tenant, at its sole cost and expense, shall inspect the Rooftop Installation Area at least annually, and correct any loose bolts, fittings or other appurtenances and repair any damage to the roof arising from the installation or operation of Tenant's Rooftop Equipment. Tenant shall not permit the installation, maintenance or operation of Tenant's Rooftop Equipment to violate any Legal Requirements, including any applicable noise ordinance of the City of Cambridge, or constitute a nuisance. Tenant shall pay Landlord within thirty (30) days after demand (a) all applicable taxes, charges, fees or impositions imposed on Landlord by governmental authorities as the result of Tenant's use of the Rooftop Installation Areas in excess of those for which Landlord would otherwise be responsible for the use or installation of Tenant's Rooftop Equipment and (b) the amount of any increase in Landlord's insurance premiums as a result of the installation of Tenant's Rooftop Equipment.

If Tenant's Equipment (a) causes physical damage to the structural integrity of the Building, or (b) interferes with any telecommunications, mechanical or other systems located at or near or servicing the Building that were installed prior to the installation of Tenant's Rooftop Equipment, then Tenant shall cooperate with Landlord to determine the source of the damage or interference and promptly repair such damage and eliminate such interference, in each case at Tenant's sole cost and expense, within ten (10) days after receipt of notice of such damage or interference (which notice may be oral; provided that Landlord also delivers to Tenant written notice of such damage or interference within twenty-four (24) hours after providing oral notice).

Landlord reserves the right to cause Tenant to relocate Tenant's Rooftop Equipment to comparably functional space on the roof or in the penthouse of the Building by giving Tenant prior written notice thereof. Landlord agrees to pay the reasonable costs thereof. Tenant shall arrange for the relocation of Tenant's Rooftop Equipment within sixty (60) days after receipt of Landlord's notification of such relocation. In the event Tenant fails to arrange for relocation within such sixty (60)-day period, Landlord shall have the right to arrange for the relocation of Tenant's Rooftop Equipment in a manner that does not unnecessarily interrupt or interfere with Tenant's use of the Premises for the Permitted Use. Notwithstanding the foregoing, in no event shall Landlord have the right to require Tenant's Rooftop Equipment to be relocated more than three (3) times during the Term, excluding relocations required in connection with any exercise of Landlord's recapture right pursuant to Section 13.2 hereof.

As part of the Landlord's Base Building Work, Landlord shall install a roof deck in the location identified as the "Roof Deck Area" on Exhibit 2 attached hereto. Any such roof deck shall be for Tenant's exclusive use, unless pursuant to Section 13.2 Landlord exercises its recapture right with respect to any portion of the second (2nd) floor of the Premises in which case, if elected by Landlord such roof deck shall be a Common Area.

1.5 Tenant's Access.

From and after the Commencement Date and until the end of the Term, Tenant shall have access to the Premises (and Permitted Pass Holders shall have access to the Parking Area) twenty-four (24) hours a day, seven (7) days a week, subject to Legal Requirements, the Rules and Regulations, the terms of this Lease, Landlord's Force Majeure (hereinafter defined) and matters of record. As used in this Lease, the term **"Landlord's Force Majeure"** shall mean delays due to riots, acts of God, war, acts of terrorism, governmental regulation, an emergency where imminent harm to persons or property is at risk, unusual scarcity of or inability to obtain labor or materials, labor difficulties, casualty or any other causes reasonably beyond Landlord's control.

Subject to Section 11 below, from and after the date that Landlord reasonably believes to be two (2) months prior to the Commencement Date (the "**Early Access Period**"), to be determined by Landlord, acting in good faith, and in its sole and absolute discretion, Tenant shall have the right to access the Premises, at Tenant's sole risk, at times reasonably approved by Landlord, for the performance and completion of the Tenant Improvements. All such work shall be at Tenant's sole cost and expense, subject to Landlord's obligations with respect to the Tenant Improvement Allowance, and shall be coordinated with Landlord so that any such work does not unreasonably interfere with Landlord's construction of the Landlord's Base Building Work (as hereinafter defined). During any such period of early access by Tenant, the construction of Landlord's Base Building Work shall at all times take priority over the Tenant Improvements. If Landlord determines that such early access by Tenant or the performance of the Tenant Improvements during the Early Access Period has interfered with the Substantial Completion (as hereinafter defined) of Landlord's Base Building Work and Tenant has failed to correct such interference within two (2) business days following Tenant's receipt of notice thereof from Landlord or other Landlord Parties (as hereinafter defined), then the Commencement Date shall be the date that Landlord would have Substantially Completed Landlord's Base Building Work, as determined by Landlord, but for such interference by Tenant. Tenant shall, prior to the first entry to the Premises pursuant to this Section 1.5(b), provide Landlord with certificates of insurance evidencing that the insurance required in Section 14 hereof is in full force and effect and covering any person or entity entering the Building. Tenant shall defend, indemnify and hold the Landlord Parties (hereinafter defined) harmless from and against any and all Claims (hereinafter defined) for injury to persons or property resulting from or relating to Tenant's access to and use of the Premises prior to the Commencement Date as provided under this Section 1.5(b). Tenant shall coordinate any access described in this Section 1.5(b) with Landlord's property manager and Landlord's contractor. Notwithstanding anything herein to the contrary, Landlord shall not have any liability to Tenant if the Commencement Date occurs earlier than two (2) months after the date Landlord determines is the first day of the Early Access Period.

In addition to providing Tenant access during the Early Access Period, Landlord, from time to time prior to the Early Access Period, may notify Tenant in writing that Tenant may perform a defined limited scope of the Tenant Improvements, as determined by Landlord (the "**Limited Scope TI Work**"), if Landlord reasonably believes, in consultation with Landlord's contractor and project manager, that it would be beneficial for the efficient construction of the Landlord's Base Building Work and Tenant Improvements for Tenant to perform such Limited Scope TI Work and that the then-performance of the Limited Scope TI Work will not interfere with the Landlord's Base Building Work. The Limited Scope TI Work shall be subject to, and shall be performed in accordance with, the terms and provisions of the immediately foregoing paragraph of this Section 1.5.

1.6 Exclusions

The following are expressly excluded from the Premises and reserved to Landlord: all the perimeter walls of the Premises (except the inner surfaces thereof), the Common Areas, 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 of all of the foregoing, except as expressly permitted pursuant to Section 1.4(a) above.

2. RIGHTS RESERVED TO LANDLORD

2.1 Additions and Alterations

Landlord reserves the right, at any time and from time to time, upon reasonably prior written notice, to make such changes, alterations, additions, improvements, repairs, replacements or testing in or to the Property and/or the Building (including the Premises but, with respect to the Premises, only for purposes of repairs, maintenance, replacements and the exercise of any other rights reserved to Landlord herein) and the fixtures and equipment therein, as well as in or to the street entrances, the Common Areas, and/or the Parking Area, as it may deem necessary or desirable, the foregoing being subject to Section 2.6. Subject to the foregoing, upon reasonable prior notice to Tenant, Landlord expressly reserves the right to temporarily close all, or any portion, of the Common Areas or Parking Area for the purpose of making repairs or changes thereto.

2.2 Additions to the Property.

(a) Landlord may, at any time after the Initial Term and from time to time thereafter, (i) construct additional improvements and related site improvements (collectively, "**Future Development**") in all or any part of the Property including additional floors to the Building, (ii) change the location or arrangement of (A) any improvement outside the Building in or on the Property and/or (B) all or any part of the Common Areas and/or Parking Area, and/or (iii) add or deduct any land to or from the Property; provided that there shall be no material increase in Tenant's obligations under this Lease in connection with the exercise of the foregoing reserved rights.

(b) Landlord and Tenant each hereby acknowledges and agrees that, in connection with any Future Development, (i) Landlord shall have the right to subject the Land and the improvements located now or in the future located thereon to a commercial condominium regime ("**Condominium**") on terms and conditions consistent with first-class office and laboratory buildings; (ii) upon Landlord's request in connection with the recording of the Master Deed for the Condominium and the Unit Deed for the Building, Tenant shall execute a reasonable instrument in recordable form making this Lease subject and subordinate to the Master Deed and other documents evidencing the Condominium (collectively, the "**Condo Documents**") provided that such Condo Documents continue to provide Tenant with all of the rights and obligations contained in this Lease (e.g. the appurtenant right to use all Common Areas) and

the Condo Documents comply with the provisions of this Section 2.2; (iii) Landlord shall have the right to enter into, and subject the Property to the terms and conditions of, a reciprocal easement agreement with any one or more of the neighboring property owners (including any owner of any portion of the Property that may be divided from the whole) ("**REA**"); provided that such REA continues to provide Tenant with all of the rights and obligations contained in this Lease with respect to the Building as of the Execution Date (e.g. the appurtenant right to use all Common Areas in the Building) and the REA complies with the provisions of this Section 2.2; (iv) Landlord shall submit to Tenant for Tenant's review drafts of the Condo Documents and the REA (and any amendments thereto) prior to their execution; (v) Tenant shall have the right to notify Landlord within twenty (20) days after receipt of the draft Condo Documents and/or REA (or any amendments thereto) of Tenant's objection(s) thereto, but only to the extent such draft(s) (A) materially adversely affect Tenant's use of, or access to, the Premises, (B) materially adversely affect the operation of Tenant's business from the Premises in accordance with the terms of this Lease, or Tenant's rights under and pursuant to the terms of this Lease, including without limitation Tenant's rights with respect to the Common Areas in the Building, and/or (C) result in any material increase in Tenant's payment or other obligations under this Lease; (vi) upon Landlord's request in connection with the recording of the REA, Tenant shall execute a commercially reasonable instrument in recordable form making this Lease subject and subordinate to the REA; (vii) Landlord shall have the right to subdivide the Property so long as Tenant continues to have all of the rights and obligations contained in this Lease with respect to the Building; and (vii) Tenant shall execute such reasonable documents (which may be in recordable form) evidencing the foregoing promptly upon Landlord's request.

2.3 Name and Address of Building

Landlord may at any time after it has exercised its recapture right with respect to any portion of the Premises pursuant to Section 13.2 and from time to time thereafter change the name or address of the Building and/or the Property, provided Landlord gives Tenant at least three (3) months' prior written notice thereof. If Landlord has not exercised its recapture right with respect to any portion of the Premises pursuant to Section 13.2, Landlord must obtain Tenant's prior written consent to any such name or address change, not to be unreasonably withheld, conditioned or delayed. Notwithstanding the foregoing, in the event any such name or address change is required pursuant to any governmental authority or Legal Requirement, Landlord may comply with such requirement without first notifying Tenant or obtaining Tenant's consent.

2.4 Landlord's Access

Subject to the terms hereof, Tenant shall (a) upon reasonable advance notice (no less than twenty-four (24) hours, or such lesser amount of time as may be agreed upon by Landlord and Tenant), which may be oral or given via email (except that no notice shall be required in emergency situations), permit Landlord and any holder of a Mortgage (hereinafter defined) (each such holder, a "**Mortgagee**"), and their respective agents, representatives, employees and contractors, to have access to the Premises at all reasonable hours for the purposes of inspection, making repairs, replacements or improvements in or to the Premises or the Building or equipment therein (including, without limitation, sanitary, electrical, heating, air conditioning or other systems), complying with all applicable laws, ordinances, rules, regulations, statutes, by-laws, court decisions and orders and requirements of all public authorities (collectively, "**Legal Requirements**"), or exercising any right reserved to Landlord under this Lease (including without limitation the right to take upon or through, or to keep and store within the Premises all necessary materials, tools and equipment); (b) permit Landlord and its agents and employees, at reasonable times, upon reasonable advance notice (no less than twenty-four (24) hours, or such lesser amount of time as may be agreed upon by Landlord and Tenant), to show the Premises during normal business hours (i.e., Monday - Friday 8:00 AM – 6:00 PM, Saturday 9:00 AM – 1:00 PM, excluding holidays) ("**Business Hours**") to any prospective Mortgagee or purchaser of the Building and/or the

Property or of the interest of Landlord therein, and, during the last twelve (12) months of the Term, or at any time after the occurrence of an Event of Default, prospective tenants; (c) upon reasonable prior written notice from Landlord (no less than forty-eight (48) hours, or such lesser amount of time as may be agreed upon by Landlord and Tenant), permit Landlord and its agents, at Landlord's sole cost and expense, to perform environmental audits, environmental site investigations and environmental site assessments ("**Site Assessments**") in, on, under and at the Premises and the Land, it being understood that Landlord shall repair any damage arising as a result of the Site Assessments, and such Site Assessments may include both above and below the ground testing and such other tests as may be necessary or appropriate to conduct the Site Assessments; and (d) in case any excavation shall be made for building or improvements or for any other purpose upon the land adjacent to or near the Premises, afford without charge to Landlord, or the person or persons, firms or entities causing or making such excavation, license to enter upon the Premises for the purpose of doing such work as Landlord or such person or persons, firms or entities shall deem to be necessary to preserve the Building from injury, and to protect the Building by proper securing of foundations. In addition, to the extent that it is necessary to enter the Premises in order to access any area that serves any portion of the Building outside the Premises, then Tenant shall, upon as much advance notice as is practical under the circumstances, and in any event at least twenty-four (24) hours' prior written notice (except that no notice shall be required in emergency situations), permit contractors engaged by other occupants of the Building to pass through the Premises in order to access such areas but only if accompanied by a representative of Landlord. The parties agree and acknowledge that, despite reasonable and customary precautions (which Landlord agrees it shall exercise), any property or equipment in the Premises may nevertheless be damaged in the course of performing Landlord's obligations. Accordingly, Tenant shall take reasonable protective precautions with its property and equipment, including any property or equipment that is fragile, vulnerable or sensitive. Notwithstanding anything to the contrary in this Lease, Landlord acknowledges that Tenant will be performing laboratory work of a highly sensitive/fragile nature in certain portions of the Premises which shall be identified in writing to Landlord and shall be subject to Landlord's reasonable approval (the "**Tenant Sensitive Areas**"). Accordingly, Landlord agrees that any such entry by Landlord onto the Tenant Sensitive Areas shall be in conformance with Tenant's reasonable security, safety and scientific procedures and protocols and Landlord shall reasonably cooperate with Tenant with respect to such reasonable security, safety and scientific procedures and protocols that Tenant may impose from time to time. In furtherance of the foregoing, Landlord hereby acknowledges and agrees that, at a minimum, Landlord's entry onto Tenant Sensitive Areas may be restricted as follows (provided such restrictions do no prohibit Landlord's reasonable entry onto the Premises (including the Tenant Sensitive Areas) in cases of emergency or threats to the health and safety of occupants of the Building): (i) Landlord shall notify Tenant of Landlord's desire to enter Tenant Sensitive Areas and Tenant shall make access to Tenant Sensitive Areas available to Landlord within twenty-four (24) hours and (ii) Landlord's entry onto Tenant Sensitive Areas may require escort by Tenant's authorized personnel.

2.5 Pipes, Ducts and Conduits

In connection with Landlord's maintenance and repair obligations under this Lease or in the event Landlord has exercised its recapture right with respect to any portion of the Premises pursuant to Section 13.2, Tenant shall permit Landlord to erect, use, maintain and relocate 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.

2.6 Minimize Interference

Except in the event of an emergency, Landlord shall use commercially reasonable efforts, consistent with accepted construction practice when applicable, to minimize any materially adverse interference with Tenant's use and occupancy of the Premises as a result of the exercise of Landlord's rights under this Article 2. Tenant agrees to cooperate with Landlord as reasonably necessary in connection with the exercise of Landlord's rights under this Article 2. Subject to Landlord's obligations under this Section 2.6, Tenant further agrees that dust, noise, vibration, temporary closures of the Common Areas or Parking Area, or other inconvenience or annoyance resulting from the exercise of Landlord's rights under this Article 2 shall not be deemed to be a breach of Landlord's obligations under the Lease. Notwithstanding the foregoing, in no event shall any space within the Premises under this Lease be deprived of safe and reasonable access or rendered untenable for the Permitted Uses by reason of Landlord's exercise of its rights under this Article 2, but excluding the exercise of any rights of Landlord under Section 2.1.

2.7 Construction in Vicinity

Tenant acknowledges that (a) Landlord and/or its affiliates ("**Neighboring Owners**") own several properties in the vicinity of the Building, (b) during the Term, the Neighboring Owners may undertake various construction projects, which may include the construction of new and/or additional buildings (each, a "**Project**," and collectively, the "**Projects**"), and (c) customary construction impacts (taking into account the urban nature of the Property, the proximity of the Building to the Project site and other relevant factors) may result therefrom. Landlord shall use commercially reasonable efforts to minimize (and cause its affiliates to minimize) materially adverse construction impacts in accordance with the mitigation plan described below. Prior to commencing any Project, Landlord shall deliver to Tenant a construction mitigation plan that shall detail such commercially reasonable mitigation measures. Subject to Landlord's compliance with this paragraph, and notwithstanding any other provision of this Lease, in no event shall Landlord be liable to Tenant for any compensation or reduction of rent or any other damages arising from the Projects and Tenant shall not have the right to terminate the Lease due to the construction of the Projects, nor shall the same give rise to a claim in Tenant's favor that such construction constitutes actual or constructive, total or partial, eviction from the Premises. Notwithstanding any provision in this Lease to the contrary, in no event shall Tenant seek injunctive or any similar relief to stop, delay or modify any Project.

3. CONDITION OF PREMISES; CONSTRUCTION.

3.1 Landlord's Base Building Work

Landlord, at its sole cost and expense, intends to make certain base Building improvements ("**Landlord's Base Building Work**"), as more particularly described on the schedule of drawings attached hereto as Exhibit 6 (the "**Landlord's Base Building Work Drawings**"), as well as improvements to the exterior landscaping at the Property. Tenant acknowledges and agrees that it has received, reviewed and approves the drawings described on Exhibit 6. On the Commencement Date, Landlord shall deliver the Premises to Tenant with Landlord's Base Building Work Substantially Completed (defined below) in a good and workmanlike manner and, except as otherwise provided herein, in compliance with all Legal Requirements, with all base Building systems (including without limitation HVAC, electrical, life-safety and plumbing systems) serving the Premises in good working order and condition in accordance with the Landlord's Base Building Work Drawings, except for items which because of the seasonal nature of the item (such as HVAC balancing) or which, in accordance with good construction practice, are not practicable to complete at such time. If Tenant notifies Landlord in writing prior to the date that is three (3) business days after Landlord notifies Tenant that Shell Oil Company has

vacated the Premises, and in such notice identifies with reasonably specificity the telecommunications cabling that Tenant desires to be removed from the Premises, Landlord shall, as part of Landlord's Base Building Work, remove from the Premises such telecommunications cabling that is not then in use and timely identified by Tenant. Landlord's Base Building Work shall be deemed "**Substantially Completed**" or "**Substantially Complete**" when Landlord has obtained a certificate of substantial completion signed by Landlord's architect, which may be in the form of the American Institute of Architects document G704, subject to punch list items. Landlord currently estimates Landlord's Base Building Work will be Substantially Completed on or about October 1, 2020 (the "**Estimated Commencement Date**"). Landlord shall use commercially reasonable efforts to tender possession of the Premises to Tenant on the Estimated Commencement Date, with Landlord's Base Building Work Substantially Complete. Tenant agrees that in the event such work is not Substantially Complete on or before the Estimated Commencement Date for any reason, then (a) this Lease shall not be void or voidable, (b) Landlord shall not be liable to Tenant for any loss or damage resulting therefrom, and (c) the Expiration Date shall be extended accordingly, provided however, (i) in the event Landlord fails to tender possession of the Premises to Tenant with Landlord's Base Building Work Substantially Complete within sixty (60) days following the Estimated Commencement Date (the "**First Late Commencement Date Deadline**") and such failure is not otherwise caused by Tenant, the six (6) month period between the Commencement Date and the Rent Commencement Date as set forth in the Lease Summary Sheet above shall be extended one (1) day for each day that occurs between the First Late Commencement Date Deadline and the date Landlord actually tenders possession of the Premises to Tenant with Landlord's Base Building Work Substantially Complete, and (ii) in the event Landlord fails to tender possession of the Premises to Tenant with Landlord's Base Building Work Substantially Complete within one hundred twenty (120) days following the Estimated Commencement Date (the "**Second Late Commencement Date Deadline**") and such failure is not otherwise caused by Tenant, the six (6) month period between the Commencement Date and the Rent Commencement Date as set forth in the Lease Summary Sheet above shall be extended two (2) days for each day that occurs between the Second Late Commencement Date Deadline and the date Landlord actually tenders possession of the Premises to Tenant with Landlord's Base Building Work Substantially Complete. Landlord shall keep Tenant informed on a regular basis as to the progress of Landlord's Base Building Work and any other activities or conditions necessary for Landlord to deliver possession of the Premises to Tenant. Subject to the foregoing and, except as specifically provided herein, Tenant acknowledges and agrees that Tenant is leasing the Premises in their "AS IS," "WHERE IS" condition and with all faults on the Commencement Date, without representations or warranties, express or implied, in fact or by law, of any kind, and without recourse to Landlord.

3.2 Tenant Improvements

Tenant shall cause the Tenant Improvements to be constructed in the Premises pursuant to the Work Letter attached hereto as Exhibit 3 (the "**Work Letter**") at a cost to Landlord not to exceed Four Million Four Hundred Twenty Six Thousand Five Hundred and 00/100 Dollars ($4,426,500.00) (based upon One Hundred Thirteen and 50/100 Dollars ($113.50) per square foot of rentable area (the "**TI Allowance**"). The TI Allowance may be applied to the costs of (m) construction, (n) intentionally omitted, (o) commissioning of mechanical, electrical and plumbing systems by a licensed, qualified commissioning agent hired by Tenant, excluding any commissioning of base Building HVAC equipment, (p) building permits and other taxes, fees, charges and levies by Governmental Authorities (as defined below) for permits or for inspections of the Tenant Improvements, and (q) costs and expenses for labor, material, equipment and fixtures. In no event shall the TI Allowance be used for (v) the cost of work that is not authorized by the Approved Plans (as defined in the Work Letter) or otherwise approved in writing by Landlord, (w) payments to Tenant or any affiliates of Tenant, (x) the purchase of any furniture, personal property or other non-building system equipment, (y) costs arising from any default by Tenant of its obligations under this Lease or (z) costs that are recoverable by Tenant from a third party (e.g., insurers, warrantors, or tortfeasors). In addition, Landlord shall provide an allowance to Tenant to be used

solely for architectural and engineering costs related to the preparation of an initial test fit plan for the Tenant Improvements in an amount not to exceed Three Thousand Nine Hundred and 00/100 Dollars ($3,900.00) (based upon Ten Cents ($0.10) per square foot of rentable area) (the "**Test Fit Plan Allowance**"). Notwithstanding the foregoing, Landlord hereby acknowledges and agrees that any costs incurred by Landlord with respect to project review by Landlord (including without limitation, Landlord's actual out of pocket costs incurred by Landlord in reviewing and managing the Tenant Improvements) shall be at Landlord's sole cost and expense and no portion of the TI Allowance shall be used therefor. For purposes of clarity, nothing in this Section 3.2 shall limit the costs and expenses incurred by Landlord for which Landlord is entitled to reimbursement by Tenant for Alterations that are not the Tenant Improvements in accordance with Article 11 of this Lease.

Tenant shall have until the date that is twelve (12) months after the Rent Commencement Date (the "**TI Deadline**"), to submit Fund Requests (as defined in the Work Letter) to Landlord for disbursement of the unused portion of the TI Allowance and Test Fit Plan Allowance, after which date Landlord's obligation to fund any such costs for which Tenant has not submitted a Fund Request to Landlord shall expire.

In no event shall any unused TI Allowance entitle Tenant to a credit against Rent payable under this Lease. Upon completion of the Tenant Improvements, and prior to any occupancy of the Premises by Tenant, Tenant shall deliver to Landlord (a) a certificate of occupancy (or its substantial equivalent) for the Premises suitable for the Permitted Use and (b) a Certificate of Substantial Completion in the form of the American Institute of Architects document G704, executed by the project architect and the general contractor.

4. USE OF PREMISES

4.1 Permitted Uses

During the Term, Tenant shall use the Premises only for the Permitted Uses 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 are designed.

4.2 Prohibited Uses

(a) Notwithstanding any other provision of this Lease, Tenant shall not use the Premises or the Building, or any part thereof, or suffer or permit the use or occupancy of the Premises or the Building or any part thereof by any of the Tenant Parties (hereinafter defined) (i) in a manner which would violate any of the covenants, agreements, terms, provisions and conditions of this Lease or otherwise applicable to or binding upon the Premises; (ii) for any unlawful purposes or in any unlawful manner; (iii) in a manner which, in the reasonable judgment of Landlord shall (a) impair the appearance or reputation of the Building; (b) 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 (c) cause harmful air emissions or any unusual or other objectionable odors, noises or emissions to emanate from the Premises; (iv) in a manner which is inconsistent with the operation and/or maintenance of the Building as a first-class office and laboratory building; (v) for any fermentation processes except in the ordinary course of Tenant's business and then only if adequately vented in Landlord's reasonable judgment (it being understood and agreed that in no event shall there be fermentation for the purpose of creating alcoholic beverages for human consumption); (vi) to operate a vivarium in excess of 3,500 square feet; or (vii) 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. Notwithstanding any other provision herein to the contrary, Tenant shall be responsible for all liabilities, costs and expenses arising from or in connection with the

compliance of the Premises with the Americans with Disabilities Act, 42 U.S.C. § 12101, et seq., and any state and local accessibility laws, codes, ordinances and rules (collectively, and together with regulations promulgated pursuant thereto, the "**ADA**"), and Tenant shall defend, indemnify and hold Landlord and the Landlord Parties harmless from and against any Claims arising from any such failure the Premises to comply with the ADA. Landlord agrees that Landlord's Base Building Work shall be constructed in conformance with the ADA. In the event Landlord's Base Building Work is not constructed in conformance with the ADA in effect as of the date Landlord commences the Landlord's Base Building Work, and provided Tenant provides Landlord written notice thereof within three (3) months after the Commencement Date, and provided Landlord does not dispute Tenant's determination of non-compliance, Landlord shall, as Tenant's sole and exclusive remedy, address any such non-compliance of Landlord's Base Building Work (and expressly not any Tenant Improvements or any modifications or alterations of Landlord's Base Building Work that are made necessary as a result of Tenant Improvements, which such modifications or alterations are Tenant's sole responsibility and cost).

(b) With respect to the use and occupancy of the Premises and the Common Areas, Tenant will not: (i) place or maintain any signage (except as may be permitted by Section 12 below), Trash (hereinafter defined) or other articles in any vestibule or entry of the Premises, on the footwalks or corridors adjacent thereto or elsewhere on the exterior of the Premises, nor obstruct any driveway, corridor, footwalk, Parking Area, or any Common Areas; (ii) permit undue accumulations of or burn garbage, trash, rubbish or other refuse (collectively, "**Trash**") within or without the Premises; (iii) permit the parking of vehicles so as to interfere with the use of any driveway, corridor, footwalk, or parking area; (iv) receive or ship articles of any kind outside of those areas reasonably designated by Landlord; (v) conduct or permit to be conducted any auction, going out of business sale, bankruptcy sale (unless directed by court order), or other similar type sale in or connected with the Premises; (vi) use the name of Landlord, or any of Landlord's affiliates or subsidiaries in any publicity, promotion, trailer, press release, advertising, printed, or display materials without Landlord's prior written consent (which may be withheld in Landlord's sole discretion); (vii) except in connection with any vivarium, permit any animals other than service animals in the Building; or (viii) except in connection with Alterations (hereinafter defined) approved by Landlord, cause or permit any hole to be drilled or made in any part of the Building

4.3 Vivarium

Tenant shall be responsible, at its sole expense, for the operations of any vivarium in accordance with all Legal Requirements and with best industry practices. Without limiting the general application of the foregoing, Tenant shall separately dispose of all waste products from the operation of the vivarium, including, without limitation, dead animals, strictly in accordance with Legal Requirements. At such time as Tenant is not the only direct tenant or occupant of the Building, (i) Landlord shall have the right, from time to time by written notice to Tenant, to promulgate reasonable rules and regulations with respect to the operation of the vivarium so as to minimize any adverse effects that such operation may have on other occupants of the Building, including without limitation, regulations as to noise mitigation, (ii) Transportation to and from the Premises of any animals, animal waste, food or supplies relating to any animals maintained from time to time in any animal storage areas of the Premises ("**Animal Transportation**") shall be subject to this Section 4.3 and Landlord's reasonable rules and regulations therefor (which may include, inter alia, consideration for the multi-tenant nature of the Building, if applicable, and the permitted path of any Animal Transportation), (iii) Animal Transportation shall only occur from 6 PM to 7 AM, and (iv) at no time shall any animals, animal waste, food or supplies relating to the animals be brought into, transported through, or delivered to the lobby of the Building or be transported within the Building in elevators other than the freight elevator. In addition, at all times that animals are transported to and from the Premises, they shall be transported in an appropriate cage or other container.

5. RENT; ADDITIONAL RENT

5.1 Base Rent

From and after the Rent Commencement Date, Tenant shall pay to Landlord Base Rent in equal monthly installments, in advance and without demand on the first day of each month for and with respect to such month (except that, if the Rent Commencement Date is any day other than the first day of a calendar month, Base Rent due for the period between the Rent Commencement Date and the last day of the calendar month in which the Rent Commencement Date occurs shall be due on the Rent Commencement Date). Unless otherwise expressly provided herein, the payment of Base Rent and additional rent and other charges reserved and covenanted to be paid under this Lease with respect to the Premises (collectively, "**Rent**") shall commence on the Rent Commencement Date and shall be prorated for any partial months. Rent 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.

5.2 Operating Costs

(a) Payment of Operating Costs. From and after the Rent Commencement Date, Tenant shall pay to Landlord, as additional rent, one hundred percent (100%) of all Operating Costs (as defined in Exhibit 7 attached hereto). Landlord may make a good faith estimate of the Operating Costs for any fiscal year (wholly or partially) occurring during the Term, and Tenant shall pay to Landlord, on the first (1st) day of each calendar month, an amount equal to the estimated Operating Costs for such fiscal year and/or part thereof divided by the number of months therein. Landlord may estimate and re-estimate the Operating Costs and deliver a copy of the estimate or re-estimate to Tenant. Thereafter, the monthly installments of Operating Costs shall be appropriately adjusted in accordance with the estimations so that, by the end of the fiscal year in question, Tenant shall have paid all of the Operating Costs as estimated by Landlord. Any amounts paid based on such an estimate shall be subject to adjustment as herein provided when the actual Operating Costs are available for each fiscal year. Notwithstanding anything in this Article 5 to the contrary, Tenant shall pay to Landlord, or directly to the utility provider, all utility costs for the Premises from and after the Commencement Date.

(b) Annual Reconciliation. Landlord shall, within one hundred twenty (120) days after the end of each fiscal year, deliver to Tenant a reasonably detailed statement of the actual amount of Operating Costs for such fiscal year ("**Year End Statement**"). Failure of Landlord to provide the Year End Statement within the time prescribed shall not relieve Tenant from its obligations hereunder. If the total of such monthly remittances on account of any fiscal year is greater than the Operating Costs actually incurred for such fiscal year, then, provided there is no Event of Default nor any event which, with the passage of time and/or the giving of notice would constitute an Event of Default, Tenant may credit the difference against the next installment of additional rent on account of Operating Costs due hereunder, except that if such difference is determined after the end of the Term, Landlord shall refund such difference to Tenant within thirty (30) days after such determination to the extent that such difference exceeds any amounts then due from Tenant to Landlord (it being understood and agreed that if Tenant cures any default prior to the expiration of the notice and/or cure periods set forth in Section 20.1 below, Tenant shall then be entitled to take such credit). If the total of such remittances is less than the Operating Costs actually incurred for such fiscal year, Tenant shall pay the difference to Landlord, as additional rent hereunder, within thirty (30) days of Tenant's receipt of an invoice therefor. Landlord's estimate of the Operating Costs for the next fiscal year shall be based upon the Operating Costs actually incurred for the prior fiscal year as reflected in the Year-End Statement plus a reasonable adjustment based upon estimated increases in Operating Costs.

(c) Part Years. If the Commencement Date or the Expiration Date occurs in the middle of a fiscal year, Tenant shall be liable for only that portion of the Operating Costs with respect to such fiscal year within the Term.

(d) Audit Right. Provided there is no Event of Default, Tenant may inspect or audit Landlord's records related to Operating Costs for any period of time within the previous fiscal year before the audit or inspection. However, no audit or inspection shall extend to periods of time before the Commencement Date. Landlord shall make its books and records relating to Operating Costs for the previous fiscal year available for inspection by Tenant within thirty (30) days after receipt of written notice from Tenant indicating that Tenant desires to exercise its inspection and audit rights under this Section 5.2(d). If Tenant fails to object to the calculation of Operating Costs on the Year-End Statement within ninety (90) days after receipt of the Year End Statement and/or fails to complete any such audit or inspection within one hundred eighty (180) days after receipt of the Year End Statement, then Tenant shall be deemed to have waived its right to object to the calculation of the Operating Costs for the year in question and the calculation thereof as set forth on such statement shall be final. Tenant's audit or inspection shall be conducted only at Landlord's offices or the offices of Landlord's property manager during business hours reasonably designated by Landlord. Tenant shall pay the cost of such audit or inspection. Tenant may not conduct an inspection or have an audit performed more than once during any fiscal year. If such inspection or audit reveals that an error was made in the calculation of Operating Costs previously charged to Tenant, then, provided there is no Event of Default, Tenant may credit the difference against the next installment of additional rent on account of Operating Costs due hereunder, except that if such difference is determined after the end of the Term, Landlord shall refund such difference to Tenant within thirty (30) days after such determination to the extent that such difference exceeds any amounts then due from Tenant to Landlord. If such inspection or audit reveals an underpayment by Tenant, then Tenant shall pay to Landlord, as additional rent hereunder, any underpayment of any such costs, as the case may be, within ten (10) days after receipt of an invoice therefor. Tenant shall maintain the results of any such audit or inspection confidential and shall not be permitted to use any third party to perform such audit or inspection, other than an independent firm of certified public accountants (A) reasonably acceptable to Landlord, (B) which is not compensated on a contingency fee basis or in any other manner which is dependent upon the results of such audit or inspection, and (C) which executes Landlord standard confidentiality agreement whereby is shall agree to maintain the results of such audit or inspection confidential. The provisions of this Section 5.2(d) shall survive the expiration or earlier termination of this Lease.

5.3 Taxes

(a) Payment of Taxes. Tenant shall pay to Landlord, as additional rent, one hundred percent (100%) of all Taxes (as defined in Exhibit 8 attached hereto). Landlord may make a good faith estimate of the Taxes to be due by Tenant for any Tax Period (as defined in Exhibit 8 attached hereto) or part thereof during the Term, and Tenant shall pay to Landlord, on the Commencement Date and on the first (1st) day of each calendar month thereafter, an amount equal to the estimated Taxes for such Tax Period or part thereof divided by the number of months therein. Landlord may estimate and re-estimate the Taxes and deliver a copy of the estimate or re-estimate to Tenant. Thereafter, the monthly installments of the Taxes shall be appropriately adjusted in accordance with the estimations so that, by the end of the Tax Period in question, Tenant shall have paid all of the Taxes as estimated by Landlord. Any amounts paid based on such an estimate shall be subject to adjustment as herein provided when actual Taxes are available for each Tax Period. If the total of such monthly remittances is greater than the Taxes actually due for such Tax Period, then, provided no Event of Default has occurred nor any event which, with the passage of time and/or the giving of notice would constitute an Event of Default, Tenant may credit the difference against the next installment of additional rent on account of Taxes due hereunder, except that if such difference is determined after the end of the Term, Landlord shall refund such

difference to Tenant within thirty (30) days after such determination to the extent that such difference exceeds any amounts then due from Tenant to Landlord (it being understood and agreed that if Tenant cures any default prior to the expiration of the notice and/or cure periods set forth in Section 20.1 below, Tenant shall then be entitled to take such credit). If the total of such remittances is less than the Taxes actually due for such Tax Period, Tenant shall pay the difference to Landlord, as additional rent hereunder, within thirty (30) days of Tenant's receipt of an invoice therefor. Landlord's estimate for the next Tax Period shall be based upon the actual Taxes attributable to the Property for the prior Tax Period plus a reasonable adjustment based upon estimated increases in Taxes. In the event that Payments in Lieu of Taxes ("**PILOT**"), instead of or in addition to Taxes, are separately assessed to certain portions of the Property including the Premises, Tenant agrees, except as otherwise expressly provided herein to the contrary, to pay to Landlord, as additional rent, the amount of such PILOT attributable to the Premises in the same manner as provided above for the payment of Taxes.

(b) Effect of Abatements. Appropriate credit against Taxes or PILOT 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 after deduction of Landlord's expenditures for reasonable legal fees and for other reasonable expenses incurred in obtaining the Tax or PILOT refund.

(c) Part Years. If the Commencement Date or the Expiration Date occurs in the middle of a Tax Period, Tenant shall be liable for only that portion of the Taxes, as the case may be, with respect to such Tax Period within the Term.

5.4 Late Payments

(a) Any payment of Rent due hereunder not paid when due shall bear interest for each month or fraction thereof from the due date until paid in full at the annual rate of ten percent (10%), or at any applicable lesser maximum legally permissible rate for debts of this nature (the "**Default Rate**"). Acceptance of interest or any partial payment shall not constitute a waiver of Tenant's default with respect to the overdue amount or prevent Landlord from exercising any of the other rights and remedies available to Landlord under this Lease or at law or in equity now or hereafter in effect. Notwithstanding the foregoing, Tenant shall be entitled to a grace period of five (5) business days after written notice from Landlord with respect to the first late payment in any Rent Year.

(b) For each Tenant payment check to Landlord that is returned by a bank for any reason, Tenant shall pay a returned check charge equal to the amount as shall be customarily charged by Landlord's bank at the time.

(c) Money paid by Tenant to Landlord shall be applied to Tenant's account in the following order: first, to any unpaid additional rent, including without limitation late charges, returned check charges, legal fees and/or court costs chargeable to Tenant hereunder; and then to unpaid Base Rent.

5.5 No Offset; Independent Covenants; Waiver

Rent shall be paid without notice or demand, and without setoff, counterclaim, defense, abatement, suspension, deferment, reduction or deduction, except as expressly provided herein. **TENANT WAIVES ALL RIGHTS (I) TO ANY ABATEMENT, SUSPENSION, DEFERMENT, REDUCTION OR DEDUCTION OF OR FROM RENT, AND (II) TO QUIT, TERMINATE OR SURRENDER THIS LEASE OR THE PREMISES OR ANY PART THEREOF, EXCEPT AS EXPRESSLY PROVIDED HEREIN. TENANT HEREBY ACKNOWLEDGES AND AGREES THAT THE OBLIGATIONS OF TENANT UNDER THIS LEASE SHALL BE SEPARATE AND**

INDEPENDENT COVENANTS AND AGREEMENTS, THAT RENT SHALL CONTINUE TO BE PAYABLE IN ALL EVENTS AND THAT THE OBLIGATIONS OF TENANT HEREUNDER SHALL CONTINUE UNAFFECTED, UNLESS THE REQUIREMENT TO PAY OR PERFORM THE SAME SHALL HAVE BEEN TERMINATED PURSUANT TO AN EXPRESS PROVISION OF THIS LEASE. LANDLORD AND TENANT EACH ACKNOWLEDGES AND AGREES THAT THE INDEPENDENT NATURE OF THE OBLIGATIONS OF TENANT HEREUNDER REPRESENTS FAIR, REASONABLE, AND ACCEPTED COMMERCIAL PRACTICE WITH RESPECT TO THE TYPE OF PROPERTY SUBJECT TO THIS LEASE, AND THAT THIS AGREEMENT IS THE PRODUCT OF FREE AND INFORMED NEGOTIATION DURING WHICH BOTH LANDLORD AND TENANT WERE REPRESENTED BY COUNSEL SKILLED IN NEGOTIATING AND DRAFTING COMMERCIAL LEASES IN MASSACHUSETTS, AND THAT THE ACKNOWLEDGEMENTS AND AGREEMENTS CONTAINED HEREIN ARE MADE WITH FULL KNOWLEDGE OF THE HOLDING IN WESSON V. LEONE ENTERPRISES, INC., 437 MASS. 708 (2002). SUCH ACKNOWLEDGEMENTS, AGREEMENTS AND WAIVERS BY TENANT ARE A MATERIAL INDUCEMENT TO LANDLORD ENTERING INTO THIS LEASE.

5.6 Survival

Any obligations under this Article 5 which shall not have been paid at the expiration or earlier termination of the Term shall survive such expiration or earlier termination and shall be paid when and as the amount of same shall be determined and be due.

6. RESERVED

7. SECURITY DEPOSIT/ LETTER OF CREDIT

7.1 Amount

Within ten (10) business days following the Execution Date, Tenant shall deliver to Landlord an irrevocable letter of credit which shall (a) be in the amount specified in the Lease Summary Sheet and otherwise in the form attached hereto as Exhibit 9; (b) issued by a FDIC insured financial institution (i) reasonably acceptable to Landlord upon which presentment may be made in Boston, Massachusetts or by mail or electronic presentation, and (ii) which satisfies the Minimum Rating Agency Threshold and the Minimum Capital Threshold (as such terms are hereinafter defined), it being acknowledged and agreed that Silicon Valley Bank, provided it continues to satisfy the Minimum Rating Agency Threshold and the Minimum Capital Threshold, is hereby deemed to be an acceptable issuer; and (c) be for a term of one (1) year, subject to extension in accordance with the terms hereof (the "**Letter of Credit**"). The Letter of Credit shall be held by Landlord, without liability for interest, as security for the faithful performance by Tenant of all of the terms, covenants and conditions of this Lease by the Tenant to be kept and performed during the Term. In no event shall the Letter of Credit be deemed to be a prepayment of Rent nor shall it be considered a measure of liquidated damages. Unless the Letter of Credit is automatically renewing, at least thirty (30) days prior to the maturity date of the Letter of Credit (or any replacement Letter of Credit), Tenant shall deliver to Landlord a replacement Letter of Credit which shall have a maturity date no earlier than the next anniversary of the Commencement Date or one (1) year from its date of delivery to Landlord, whichever is later.

So long as (i) there have not been two (2) or more Events of Default as of the applicable date of the reduction, (ii) there is no Event of Default with respect to a monetary obligation of Tenant as of the date of the reduction, and (iii) there is no material adverse change in Tenant's chief financial officer and audited financials, then the face amount of the Letter of Credit may be reduced by Tenant to (w) $1,592,500.00 at the commencement of the second Rent Year, (x) $1,274,000.00 at the commencement of the third Rent Year, and (y) $955,500.00 at the commencement of the fourth Rent Year. Landlord shall, at no cost to Landlord, cooperate with Tenant and the issuer of the Letter of Credit in connection with any such reduction of the Letter of Credit, if applicable.

7.2 Application of Proceeds of Letter of Credit

Upon any monetary default or non-monetary Event of Default of Tenant under this Lease, or if 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 thirty (30) days) or if Tenant is adjudged bankrupt or insolvent as a result of any such proceeding, or upon the end of the Term if there remains any uncured default of which Tenant shall have received notice, Landlord in its sole discretion may draw down all or a part of the Letter of Credit. The balance of any Letter of Credit cash proceeds shall be held in accordance with Section 7.5 below. Should the entire Letter of Credit, or any portion thereof, be drawn down by Landlord, Tenant shall, upon the written demand of Landlord, deliver a replacement Letter of Credit in the amount drawn, and Tenant's failure to do so within ten (10) days after receipt of such written demand shall constitute an additional Event of Default hereunder without further notice or an opportunity to cure. The application of all or any part of the cash proceeds of the Letter of Credit to any obligation or default of Tenant under this Lease shall not deprive Landlord of any other rights or remedies Landlord may have nor shall such application by Landlord constitute a waiver by Landlord.

7.3 Transfer of Letter of Credit

In the event that Landlord transfers its interest in the Premises, Tenant shall upon notice from and at no cost to Landlord, deliver to Landlord an amendment to the Letter of Credit or a replacement Letter of Credit naming Landlord's successor as the beneficiary thereof. If Tenant fails to deliver such amendment or replacement within ten (10) days after written notice from Landlord, Landlord shall have the right to draw down the entire amount of the Letter of Credit and hold the proceeds thereof in accordance with Section 7.5 below.

7.4 Credit of Issuer of Letter of Credit

The "**Minimum Rating Agency Threshold**" shall mean that the issuing bank has outstanding unsecured, uninsured and unguaranteed senior long-term indebtedness that is then rated (without regard to qualification of such rating by symbols such as "+" or "-" or numerical notation) "Baa" or better by Moody's Investors Service, Inc. and/or "BBB" or better by Standard & Poor's Rating Services, or a comparable rating by a comparable national rating agency designated by Landlord in its discretion. The "**Minimum Capital Threshold**" shall mean that the issuing bank has combined capital, surplus and undivided profits of not less than $10,000,000,000. If the issuer of the Letter of Credit fails to satisfy either or both of the Minimum Rating Agency Threshold or the Minimum Capital Threshold, Tenant shall be required to deliver a substitute letter of credit from another issuer reasonably satisfactory to the Landlord and that satisfies both the Minimum Rating Agency Threshold and the Minimum Capital Threshold not later than ten (10) business days after Landlord notifies Tenant of such failure.

7.5 Security Deposit

Landlord shall hold the balance of proceeds remaining after a draw on the Letter of Credit (hereinafter referred to as the "**Security Deposit**") as security for Tenant's performance of all its Lease obligations. After a monetary default or non-monetary Event of Default of Tenant under this Lease, or upon the end of the Term if there remains any uncured default of which Tenant shall have received notice, Landlord may apply the Security Deposit, or any part thereof, to Landlord's damages without prejudice to any other Landlord remedy. Should Landlord apply all or any portion of the Security Deposit, Tenant shall, upon the written demand of Landlord, deliver cash in the amount applied, and Tenant's failure to do so within twenty (20) days after receipt of such written demand shall constitute an additional Event of Default hereunder without further notice or opportunity to cure. Additionally, if Landlord applies all or any portion of the Security Deposit as aforesaid, Tenant shall have the right to deliver a replacement Letter of Credit in the form and amount required hereunder, and upon receipt of such replacement Letter of Credit, Landlord shall return the unapplied Security Deposit to Tenant. Landlord has no obligation to pay interest on the Security Deposit and may co-mingle the Security Deposit with Landlord's funds. Provided that any uncured Event of Default does not then-exist, if Landlord conveys its interest under this Lease, the Security Deposit, or any part not applied previously, shall be turned over to the grantee in which case Tenant shall look solely to the grantee for the proper application and return of the Security Deposit.

7.6 Return of Security Deposit or Letter of Credit

Should Tenant comply with all of such terms, covenants and conditions and promptly pay all sums payable by Tenant to Landlord hereunder, the Security Deposit and/or Letter of Credit or the remaining proceeds therefrom, as applicable, shall be returned to Tenant within sixty (60) days after the end of the Term, less any portion thereof which may have been utilized by Landlord to cure any default or applied to any actual damage suffered by Landlord.

8. RESERVED

9. UTILITIES, HVAC; WASTE REMOVAL

9.1 Electricity

Commencing on the Commencement Date, Tenant shall pay all charges for electricity furnished to the Premises and/or any equipment exclusively serving the Premises as additional rent, based on applicable check metering equipment. Tenant shall, at Tenant's sole cost and expense, maintain and keep in good order, condition and repair any metering equipment. Tenant shall pay the full amount of any charges attributable to such meter on or before the due date therefor directly and/or reimburse Landlord for any such charges it pays directly.

9.2 Water

The Building will be connected to the Cambridge municipal water system. The costs of water and sewer for the Building are included in Operating Costs.

9.3 Gas

Landlord shall provide a connection for natural gas service capacity for base Building systems and Tenant's use in the Premises at all times during the Term. Tenant shall, at Tenant's expense, furnish and install in a location approved by Landlord in or near the Premises such necessary metering equipment approved by Landlord to measure gas furnished to the Premises and any equipment exclusively serving the same. Tenant, at Tenant's expense, shall maintain and keep in good repair and condition such gas meter equipment. Commencing on the Rent Commencement Date, Tenant shall pay the full amount of any charges attributable to such meter(s) on or before the due date therefor directly to the supplier thereof.

9.4 Heat, Ventilating and Air Conditioning

(a) General. Consistent with the levels provided by first class combination office and laboratory buildings in the East Cambridge area, Landlord shall provide to the Common Areas and the Premises HVAC service as follows: (i) with respect to those portions of the Premises dedicated to laboratory use, heat and air conditioning and general exhaust and ventilation 365 days per year, twenty-four (24) hours per day, seven (7) days per week, and (ii) with respect to those portions of the Premises dedicated to office use, heat and air conditioning during Business Hours. It is expressly acknowledged and agreed that Tenant shall be solely responsible for (A) cooling any data center, server rooms and any other similar areas located in the Premises beyond the standard level of cooling provided, and (B) specialty exhaust, including without limitation exhaust for H2 rooms, radiation hoods and isotope hoods, vivarium, chemical storage rooms which require Class I, Division II classification, if any, and any other special rooms or special Tenant equipment. All costs incurred by Landlord to provide HVAC service to the Premises shall be reimbursed by Tenant to Landlord as additional rent. Such costs shall include the cost of all utility services used in the operation of the HVAC system(s) providing HVAC service to the Premises and all costs incurred by Landlord in the operation, maintenance, and repair of such system(s). In addition, to the extent Tenant requires air conditioning service to the office portion of the Premises outside of Business Hours, Tenant shall pay to Landlord as additional rent, a charge reasonably calculated to represent the additional wear and tear to the base Building HVAC system arising from Tenant's use thereof outside of Business Hours. Landlord shall allocate to the Premises a portion of the total amount of such costs incurred with respect to the Building based upon the cubic footage of heated, chilled, and fresh air distributed in the Premises as indicated by the energy management system serving the Building as a percentage of the aggregate cubic footage of heated, chilled, and fresh air distributed in the entire Building for the applicable period. Tenant shall pay such costs monthly, together with monthly installments of Base Rent, on an estimated basis in amounts from time to time reasonably determined by Landlord. From time to time, and at least annually, Landlord shall deliver to Tenant a reasonably detailed statement of the actual amount of such costs for the period of time since the prior statement, together with a statement of the amounts paid by Tenant on an estimated basis toward such costs as aforesaid. If such statement indicates that the estimated amounts paid by Tenant are less than Tenant's allocable share of the actual amount of such costs for such period of time, then Tenant shall pay the amount of such shortfall to Landlord within thirty (30) days after delivery of such statement. If such statement indicates that Tenant's estimated payments for such period of time exceed the actual amount of such costs for such year, then Landlord shall credit the excess against the next due installment(s) of additional rent payable under this Section 9.4. Whenever the air conditioning systems are in operation, Tenant agrees to use reasonable efforts to lower and close the blinds or drapes when necessary because of the sun's position, 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 systems.

(b) Additional Requirements. In the event Tenant requires additional air conditioning in excess of the normal operating capacity of the base Building HVAC system specified on Exhibit 6 for (i) personal computers in excess of an average of one personal computer per person in occupancy of the Premises, (ii) equipment or business machines, (iii) meeting rooms or server rooms, (iv) laboratory and research and development uses or (v) other special purposes, or because of occupancy, then any additional air conditioning units, chillers, condensers, compressors, ducts, piping and other equipment may be installed by Landlord or, at Landlord's election, by Tenant with Landlord's supervision, in either case at Tenant's sole cost and expense, but only if, in Landlord's reasonable judgment, the same will not (A) cause damage or injury to the Building, (B) create a dangerous or hazardous condition, (C) unreasonably or materially interfere with or disturb other tenants, nor (D) entail excessive or unreasonable alterations or repairs. Tenant shall reimburse Landlord, as additional rent hereunder, for the cost incurred by Landlord in installing, maintaining and operating such additional air conditioning equipment and the charges for all utilities consumed thereby.

9.5 Other Utilities; Utility Information

Subject to Landlord's reasonable rules and regulations governing the same, Tenant shall obtain and pay, as and when due, for all other utilities and services consumed in and/or furnished to the Premises, together with all taxes, penalties, surcharges and maintenance charges pertaining thereto. Within ten (10) business days after Landlord's request from time to time, Tenant shall provide Landlord with reasonably detailed information regarding Tenant's utility usage in the Premises.

9.6 Interruption or Curtailment of Utilities

(a) When necessary by reason of accident or emergency, or for repairs, alterations, replacements or improvements which in the reasonable judgment of Landlord are desirable or necessary to be made, Landlord reserves the right, upon no less than twenty-four (24) hours' notice except in the event of an emergency, to interrupt, curtail, or stop (i) the furnishing of hot and/or cold water, (ii) the operation of the plumbing and electric systems, and/or (iii) the HVAC services. Landlord shall exercise reasonable diligence to eliminate the cause of any such interruption, curtailment, stoppage or suspension, but, except as set forth herein, 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 Tenant's obligations hereunder reduced, and Landlord shall have no responsibility or liability for any such interruption, curtailment, stoppage, or suspension of services or systems.

(b) Notwithstanding anything to the contrary in this Lease contained, if the Premises shall lack any service which Landlord is required to provide hereunder, or if Tenant's use and occupancy of the Premises or any part thereof shall be disturbed in violation of Section 23 hereof (thereby rendering the Premises or a portion thereof substantially untenantable) such that, for the duration of the Landlord Service Interruption Cure Period (hereinafter defined), the continued operation in the ordinary course of Tenant's business in any portion of the Premises is materially and adversely affected, and if Tenant ceases to use the affected portion of the Premises (the "**Affected Portion**") during the period of untenantability as the direct result of such lack of service or disturbance, then, provided that Tenant ceases to use the Affected Portion during the entirety of the Landlord Service Interruption Cure Period and that such untenantability and Landlord's inability to cure such condition is not caused by the fault or neglect of any of the Tenant Parties, Base Rent shall thereafter be abated in proportion to such untenantability until the day such condition is completely corrected. For purposes hereof, the "**Landlord Service Interruption Cure Period**" shall be defined as five (5) consecutive business days after Landlord's receipt of written notice from Tenant of the condition causing untenantability in the Affected Portion. The provisions of this Section 9.6(b) shall not apply in the event of untenantability caused by causes beyond Landlord's control or if Landlord is unable to cure such condition as the result of causes beyond Landlord's control. The terms and provisions of this Section 9.6(b) shall be Tenant's sole and exclusive remedy in the event of any breach by Landlord of Section 9.6.

9.7 Telecommunications Providers

Landlord shall permit access to the Building to Tenant's Landlord- approved telecommunications service providers, such approval not to be unreasonably withheld, conditioned or delayed, and shall allow such telecommunications providers to reasonably install, maintain and operate its telecommunications equipment and cabling in the Building, subject to reasonable rules and regulations imposed by Landlord from time to time. Tenant is solely responsible for contracting for telecommunications services to the Premises with the telecommunications service provider(s) that will serve the Building, and Landlord shall have no liability to Tenant whatsoever for any disruption to, or interference with, telecommunications services to the Premises.

9.8 Trash Removal

Throughout the Term, Tenant shall, at its sole cost and expense keep any Trash in vermin-proof containers within the interior of the Premises until removed. Tenant, at its sole cost and expense, shall furnish a service for recycling and removal of Trash from the Premises. If any Legal Requirements or the trash removal company requires that any substances in the Premises be disposed of separately from ordinary trash, Tenant shall make arrangements at Tenant's expense for such disposal directly with a qualified and licensed disposal company at a lawful disposal site. Tenant shall locate the Trash dumpster serving the Building in a location reasonably acceptable to Landlord. Landlord hereby agrees that the location of the Trash dumpster as of the Execution Date is an acceptable location.

9.9 Landlord Services

Subject to reimbursement pursuant to Section 5.2 above, and subject further to Landlord's Force Majeure, Landlord shall provide the services described in Exhibit 10 attached hereto and made a part hereof ("**Landlord's Services**"). All costs incurred in connection with the provision of Landlord's Services shall be included in Operating Costs, except to the extent specifically excluded in such Exhibit 7.

10. MAINTENANCE AND REPAIRS

10.1 Maintenance and Repairs by Tenant

Tenant shall keep the Premises (including all electronic, phone and data cabling and related equipment serving the Premises), fixtures, lighting, electrical equipment and wiring, non-structural walls, interior windows, floor coverings, doors and door frames and plate glass (provided that Landlord shall have the right to repair plate glass at Tenant's cost) neat and clean and free of insects, rodents, vermin and other pests and, subject to Section 9.7 above, Trash, and in such good repair, order and condition as the same are in on the Commencement Date or in such better condition as the Premises may be put in during the Term, reasonable wear and tear and damage by insured Casualty excepted. Tenant shall be solely responsible, at Tenant's sole cost and expense, for the proper maintenance and repair of all building systems, sanitary, electrical, heating, air conditioning, plumbing, security or other systems and of all equipment and appliances, including the HVAC air distribution systems (excluding only the Base Building Systems, as hereinafter defined), provided that Landlord shall have the right to repair the same at Tenant's cost. Tenant agrees to provide regular maintenance by contract with a reputable qualified service contractor for the heating and air conditioning, electrical, plumbing and life-safety equipment servicing the Premises. Such maintenance contract and contractor shall be subject to Landlord's reasonable approval. Tenant, at Landlord's request, shall at reasonable intervals provide Landlord with copies of such contracts and maintenance and repair records and/or reports.

10.2 Maintenance and Repairs by Landlord

Except as otherwise provided in Article 15, and subject to Tenant's obligations in Section 10.1 above, Landlord shall maintain the roof, Building structure (including the foundation, structural floor slabs and columns), exterior window frames, loading dock(s), Parking Area, and the Building's central heating and cooling plant and central electrical, plumbing and mechanical systems, including the elevators (collectively, the "**Base Building Systems**") in reasonable repair, order and condition and in compliance with Legal Requirements. All costs incurred by Landlord under this Section 10.2 shall be included in Operating Costs as provided in Section 5.2 except to the extent specifically excluded in such Exhibit 7.

10.3 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 the sanitary, electrical, ventilation, heating and air conditioning or other systems located in, or passing through, the Premises. Except as otherwise provided in Article 15, and subject to Tenant's obligations in Section 10.1 above, such damage or defective condition shall be remedied by Landlord with reasonable diligence, but, subject to Section 14.5 below, if such damage or defective condition was caused by any of the Tenant Parties, the cost to remedy the same shall be paid by Tenant.

10.4 Floor Load--Heavy Equipment

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 Legal Requirements. Landlord reserves the right to prescribe the weight and position of all safes, heavy machinery, heavy equipment, freight, bulky matter or fixtures (collectively, "**Heavy Equipment**"), which shall be placed so as to distribute the weight. Heavy Equipment shall be placed and maintained by Tenant at Tenant's expense in settings sufficient in Landlord's reasonable judgment to absorb and prevent vibration, noise and annoyance. Tenant shall not move any Heavy Equipment into or out of the Building without giving Landlord prior written notice thereof and observing all of Landlord's Rules and Regulations with respect to the same. If such Heavy Equipment 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 Legal Requirements. Any such moving shall be at the sole risk and hazard of Tenant and Tenant will defend, indemnify and save Landlord and Landlord's agents (including its property manager), contractors and employees (collectively with Landlord, the "**Landlord Parties**") harmless from and against any and all claims, damages, judgments, losses, penalties, costs, expenses and fees (including reasonable legal fees) (collectively, "**Claims**") resulting directly or indirectly from such moving. Proper placement of all Heavy Equipment in the Premises shall be Tenant's responsibility.

11. ALTERATIONS AND IMPROVEMENTS BY TENANT

11.1 Landlord's Consent Required

Tenant shall not make any alterations, decorations, installations, removals, additions or improvements, including a vivarium not to exceed 3,500 square feet, (collectively, "**Alterations**") in or to the Premises without Landlord's prior written approval of the contractor(s), written plans and specifications, a time schedule therefor and the items listed in Exhibit 11 attached hereto and made a part hereof. Landlord reserves the right to require that Tenant use Landlord's preferred vendor(s) for any Alterations that involve roof penetrations, alarm tie-ins, sprinklers, fire alarm and other life safety equipment. Tenant shall not make any amendments or additions to plans and specifications approved by

Landlord without Landlord's prior written consent. Landlord's approval of non-structural Alterations shall not be unreasonably withheld, conditioned or delayed. Notwithstanding the foregoing, Landlord may withhold its consent in its sole discretion (a) to any Alteration to or affecting the roof and/or building systems, (b) with respect to matters of aesthetics relating to Alterations to or affecting the exterior of the Building, (c) to any Alteration affecting the Building structure, and (d) to any Alteration enlarging the rentable square footage of the Premises. Notwithstanding the foregoing, Landlord's consent shall not be required with respect to any Alterations that are purely decorative in nature nor with respect to any Alterations costing less than $50,000 in any one instance ($150,000 in the aggregate per year), up to a maximum of three (3) such Alterations per year, so long as such Alterations do not affect the roof, Building systems or Building exterior or require the issuance of a building permit or any other governmental approval (each, a "**Permitted Alteration**"), provided Tenant shall provide Landlord with reasonably detailed prior written notice thereof. Tenant shall be responsible for all elements of the design of Tenant's plans (including compliance with Legal Requirements, 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. In seeking Landlord's approval, Tenant shall provide Landlord, at least fourteen (14) business days in advance of any proposed construction, with, to the extent applicable, plans, specifications, bid proposals, certified stamped engineering drawings and calculations by Tenant's engineer of record or architect of record (including connections to the Building's structural system, modifications to the Building's envelope, non-structural penetrations in slabs or walls, and modifications or tie-ins to life safety systems), code compliance certifications, work contracts, requests for laydown areas and such other information concerning the nature and cost of the Alterations as Landlord may reasonably request. 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 work performed by or on behalf of Tenant. Except as otherwise expressly set forth herein, all Alterations shall be done at Tenant's sole cost and expense and at such times and in such manner as Landlord may from time to time reasonably designate. To the extent applicable, Tenant shall provide Landlord with reproducible record drawings (in CAD format) of all Alterations (including the Tenant Improvements) within sixty (60) days after completion thereof. If Tenant shall make any Alterations, including a vivarium, then Landlord may elect, not later than the time of Landlord's approval thereof (or as soon as reasonably possible and in any event within thirty (30) days after receipt of reasonably detailed notice regarding any Permitted Alterations), to require Tenant at the expiration or sooner termination of the Term to restore the Premises to substantially the same condition as existed immediately prior to the Alterations, provided however, if Landlord has elected pursuant to this sentence to require Tenant to remove the Alterations at the expiration or sooner termination of the Term, Landlord, in its sole discretion, may elect at any time prior to the at the expiration or sooner termination of the Term for Tenant to pay to Landlord fifty percent (50%) of the restoration costs with respect to any such Alterations, as such costs are reasonably determined by Landlord, in lieu of Tenant being required to remove such Alteration. If Landlord does not timely elect to require such removal, then any such Alterations shall become part of the Premises upon installation, and shall be surrendered with the Premises at the end of the Term. Subject to the terms and conditions set forth in this Article 11, Tenant shall have the right to install and maintain a card access system in the Premises. Tenant, at its sole cost and expense, shall furnish to Landlord a reasonable number of devices required to access the Premises.

11.2 Supervised Work

Landlord and Tenant recognize that to the extent Landlord permits Tenant to perform any Alterations outside the Premises and/or affecting the Building systems, or if required by Legal Requirements, Landlord may need to make arrangements to have supervisory personnel on site. Accordingly, Landlord and Tenant agree as follows: Tenant shall give Landlord at least two (2) business days' prior written notice of any proposed Alterations outside the Premises and/or affecting the Building systems (the "**Supervised Work**"). Tenant shall reimburse Landlord, within thirty (30) days after demand therefor, for the reasonable cost of Landlord's supervisory personnel overseeing the Supervised Work.

11.3 Harmonious Relations

Tenant agrees that it will not, either directly or indirectly, use any contractors and/or materials if 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 Property or any part thereof. In the event of any such difficulty, upon Landlord's request, Tenant shall cause all contractors, mechanics or laborers causing such difficulty to leave the Property immediately.

11.4 Liens

No Alterations shall be undertaken by Tenant until Tenant has made provision for written waiver of liens from all contractors for such Alteration and taken other appropriate protective measures approved and/or required by Landlord. If the cost of such Alteration exceeds $50,000, then Tenant shall either: (a) demonstrate to Landlord, to Landlord's reasonable satisfaction, that Tenant is able to pay for the cost of such Alteration, or (b) provide to Landlord security, in form and amount reasonably satisfactory to Landlord (such as a letter or credit, escrowed funds, payment, surety payment and performance bonds or a guaranty) securing Tenant's obligation to pay the entire cost of such Alterations. 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 after Tenant has received written notice of such filing, at Tenant's expense, by paying such amount described in such mechanics lien or filing a bond required by law or otherwise.

11.5 General Requirements

Unless Landlord and Tenant otherwise agree in writing, Tenant shall (a) obtain Landlord's written approval (which approval shall not be unreasonably withheld, conditioned or delayed) of any and all building permit applications relating to Alterations to the Premises prior to submission thereof; (b) procure or cause others to procure on its behalf all necessary permits before undertaking any Alterations in the Premises and provide copies thereof to Landlord; (c) perform all of such Alterations in a good and workmanlike manner, employing materials of good quality and in compliance with Landlord's construction rules and regulations, all insurance requirements of this Lease, and Legal Requirements; and (d) defend, indemnify and hold the Landlord Parties harmless from and against any and all Claims occasioned by or growing out of such Alterations. Tenant shall cause contractors employed by Tenant to (i) carry the insurance specified in Exhibit 11A and (ii) submit certificates evidencing such coverage to Landlord prior to the commencement of any such Alterations. Tenant shall cause its contractors, suppliers, and vendors to comply with Landlord's reasonable requirements prior to entering the Premises, which may include executing Landlord's customary right of entry agreement. If Landlord reasonably determines that, in connection with Alterations by Tenant, (A) any base Building system (including the fire alarm system) should be or is required to be shut down, and/or (B) base Building mechanical system filters be changed pre- or post-construction, Tenant shall reimburse Landlord for the reasonable out-of-pocket costs incurred by Landlord in connection therewith.

12. SIGNAGE

12.1 Restrictions

Landlord, at its sole cost and expense, shall provide code-compliant egress signage. Tenant shall have the right to install Building standard signage identifying Tenant's business at the entrance to the Premises, which signage shall be (a) at Tenant's sole cost and expense, and (b) subject to Landlord's prior written consent (which consent shall not be unreasonably withheld, conditioned or delayed) with respect to size, location, and design thereof. Provided that Tenant is occupying at least fifty percent (50%) of the rentable area of the Building, Tenant shall also have the exclusive right to install signage identifying Tenant's business on the exterior of the Building (a) at Tenant's sole cost and expense and (b) subject to (i) all Legal Requirements and (ii) Landlord's review and prior written approval or the plans and specifications thereof, which approval shall not be unreasonably withheld, conditioned or delayed. The foregoing exterior signage right is personal to Intellia Therapeutics, Inc. or any assignee of this Lease pursuant to a Transfer under Section 13.7 below. Subject to the foregoing, Tenant shall not place or suffer to be placed or maintained on the exterior of the Building, or any part of the interior of the Building visible from the exterior thereof, any sign, banner, advertising matter or any other thing of any kind, and shall not place or maintain any decoration, letter or advertising matter on the glass of any window or door of the Premises without first obtaining Landlord's written approval which approval shall not be unreasonably withheld, conditioned or delayed. As part of Landlord's Base Building Work, Landlord has provided Tenant with building standard window blinds, and Tenant may not remove such building standard blinds without Landlord's prior written consent.

13. ASSIGNMENT, MORTGAGING AND SUBLETTING

13.1 Landlord's Consent Required

Tenant shall not, without Landlord's prior written consent, which consent may be withheld in Landlord's sole discretion, mortgage or otherwise encumber this Lease or the Premises in whole or in part. Except as expressly otherwise set forth in Section 13.7 below, Tenant shall not, without Landlord's prior written consent, assign, sublet, license or transfer this Lease or the Premises in whole or in part whether by changes in the ownership or control of Tenant, or any direct or indirect owner of Tenant, whether at one time or at intervals, by sale or transfer of stock, partnership or beneficial interests, operation of law or otherwise, or permit the occupancy of all or any portion of the Premises by any person or entity other than Tenant's employees (each of the foregoing, a "**Transfer**"). Any purported Transfer made without Landlord's consent, if required hereunder, shall be void and confer no rights upon any third person, provided that if there is a Transfer, Landlord may collect rent from the transferee without waiving the prohibition against Transfers, accepting the transferee, or releasing Tenant from full performance under this Lease. In the event of any Transfer in violation of this Article 13, Landlord shall have the right to terminate this Lease upon thirty (30) days' written notice to Tenant given within sixty (60) days after receipt of written notice from Tenant to Landlord of any Transfer, or within one (1) year after Landlord first learns of the Transfer if no notice is given. No Transfer shall relieve Tenant of its primary obligation as party Tenant hereunder, nor shall it reduce or increase Landlord's obligations under this Lease.

13.2 Landlord's Recapture Right

(a) Subject to Section 13.7 below, Tenant shall, prior to making an assignment of Tenant's interest in this Lease or offering or advertising either (i) fifty percent (50%) or more of the Premises or (ii) the entire second (2nd) floor of the Building for a Transfer or accepting an offer for a Transfer with respect to either (i) fifty percent (50%) or more of the Premises or (ii) the entire second (2nd) floor of the Building, give a written notice (the "**Recapture Notice**") to Landlord which: (a) states

that Tenant desires to make a Transfer with respect to either (i) fifty percent (50%) or more of the Premises or (ii) the entire second (2nd) floor of the Building, as applicable, (b) identifies the affected portion of the Premises (the "**Recapture Premises**"), or indicates that Tenant proposes to assign its interest in this Lease (for purposes of clarity, a Transfer to an Affiliated Entity or Successor as described in Section 13.7 below or a Transfer with respect to less than fifty percent (50%) of the Premises, provided such Transfer is not with respect to the entire second (2nd) floor of the Building, shall not require a Recapture Notice nor give Landlord any right to recapture the Premises (or any portion thereof)), and (c) offers to Landlord to terminate this Lease with respect to the Recapture Premises. Landlord shall have fifteen (15) business days within which to respond to the Recapture Notice. In the event Landlord fails to respond to such Recapture Notice within such fifteen (15) business day period, Landlord shall be deemed to have waived its right to recapture the Recapture Premises with respect to such particular Transfer. However, in the event Landlord elects to accept the offer set forth in the Recapture Notice, Landlord and Tenant shall enter into an amendment of this Lease documenting such recapture within thirty (30) days following Landlord's exercise of such recapture right, subject to Section 13.2(c) below. For the purposes of this Section 13.2, business days shall exclude those days occurring on or between December 23 and January 1 in any calendar year.

(b) If Tenant does not enter into a Transfer on the terms and conditions contained in the Recapture Notice on or before the date which is one hundred eighty (180) days after the earlier of:
(x) the expiration of the 15-business day period specified in Section 13.2(a) above, or (y) the date that Landlord notifies Tenant that Landlord will not accept Tenant's offer contained in the Recapture Notice, *time being of the essence*, then prior to entering into any Transfer after such 180-day period, Tenant must deliver to Landlord a new Recapture Notice in accordance with Section 13.2(a) above.

(c) Notwithstanding anything to the contrary contained herein, if Landlord notifies Tenant that it accepts the offer contained in the Recapture Notice or any subsequent Recapture Notice, Tenant shall have the right, for a period of fifteen (15) days following receipt of such notice from Landlord, time being of the essence, to notify Landlord in writing that it wishes to withdraw such offer and this Lease shall continue unmodified and in full force and effect.

13.3 Standard of Consent to Transfer

Subject to Landlord's rights set forth in Section 13.2 to terminate the Lease or suspend the Term, Landlord agrees that, subject to the provisions of this Article 13, Landlord shall not unreasonably withhold, condition or delay its consent to a Transfer at fair market rent and otherwise on the terms contained in the Recapture Notice. It shall be reasonable for Landlord to withhold its consent to a Transfer (a) if the proposed assignee or sublessee, as the case may be (a "**Transferee**") will not use the Premises for the Permitted Uses, or (b) if, in Landlord's reasonable opinion: the Transferee (i) does not have a tangible net worth and other financial indicators sufficient to meet the Transferee's obligations under the Transfer instrument in question; (ii) does not have a business reputation compatible with the operation of a first-class combination laboratory, research, development and office building; and/or (c) intends to use the space subject to the Transfer for a use that violates any exclusive or restrictive use provisions then in effect with respect to any portion of the Property.

13.4 Listing Confers no Rights

The listing of any name other than that of Tenant, whether on the doors of the Premises or on the Building directory, or otherwise, shall not operate to vest in any such other person, firm or corporation any right or interest in this Lease or in the Premises or be deemed to effect or evidence any consent of Landlord, it being expressly understood that any such listing is a privilege extended by Landlord revocable at will by written notice to Tenant.

13.5 Profits In Connection with Transfers

Excluding any Transfer to an Affiliated Entity or Successor, as described in Section 13.7 below, that is a bona fide transaction without the intent to evade the purposes of this Section 13.5, Tenant shall, within thirty (30) days of receipt thereof, pay to Landlord fifty percent (50%) of any rent, sum or other consideration to be paid or given in connection with any Transfer, either initially or over time, after deducting the reasonable out-of-pocket legal fees, brokerage commissions, marketing expenses, tenant improvement funds expended by Tenant, alterations, cash concessions and free rent actually paid by Tenant and unamortized improvements paid for by Tenant in connection with such Transfer, in excess of Rent hereunder as if such amount were originally called for by the terms of this Lease as additional rent with such amount being amortized on a straight line basis over the term of any sublease, or with respect to any assignment of this Lease, the remaining Term. Landlord and Tenant shall mutually agree on the amount of the payments set forth in this Section 13.5 prior to Tenant entering into any sublease or assignment.

13.6 Prohibited Transfers

Notwithstanding any contrary provision of this Lease, Tenant shall have no right to make a Transfer unless on both (i) the date on which Tenant notifies Landlord of its intention to enter into a Transfer and (ii) the date on which such Transfer is to take effect, there is not a Tenant monetary default or non-monetary Event of Default. Notwithstanding anything to the contrary contained herein, Tenant agrees that in no event shall Tenant make a Transfer to (a) any government agency; or (b) any tenant, subtenant or occupant of other space in the Property; or (c) any entity with whom Landlord, or any affiliate of Landlord shall have negotiated for space in the Property, or in any such affiliate's properties, in the six (6) months immediately preceding such proposed Transfer.

13.7 Permitted Transfers

Provided no default of Tenant then-exists, Tenant shall have the right to make a Transfer without obtaining Landlord's prior written consent, to (a) an Affiliated Entity (hereinafter defined) so long as such entity remains in such relationship to Tenant, and (b) a Successor, provided that (i) Tenant shall notify Landlord in writing at least thirty (30) days prior to the effectiveness of such Transfer to the extent not prohibited by Legal Requirements or any applicable transaction documents (in which case, Tenant shall notify Landlord in writing promptly following the expiration of any such prohibition), which such notice shall include (A) with respect to a Transfer to an Affiliated Entity, evidence reasonably satisfactory to Landlord that such Affiliated Entity has the financial wherewithal to meet its obligations under this Lease, that it meets the definition of Affiliated Entity under clause (yy) of this Section 13.7 and that such Affiliated Entity has a Tangible Net Worth (as hereinafter defined) that satisfies the requirements of this Section 13.7, or (B) with respect to a Transfer to a Successor, evidence reasonably satisfactory to Landlord that such Successor has a Tangible Net Worth (as hereinafter defined) that satisfies the requirements of this Section 13.7, (ii) prior to or simultaneously with any assignment pursuant to this Section 13.7, such Affiliated Entity or Successor, as the case may be, and Tenant execute and deliver to Landlord an assignment and assumption agreement in form and substance reasonably acceptable to Landlord whereby such Affiliated Entity or Successor, as the case may be, shall agree to be independently bound by and upon all the covenants, agreements, terms, provisions and conditions set forth in the Lease on the part of Tenant to be performed, and whereby such Affiliated Entity or Successor, as the case may be, shall expressly agree that the provisions of this Article 13 shall, notwithstanding such Transfer, continue to be binding upon it with respect to all future Transfers, and (iii) such Affiliated Entity or Successor, as the case may be, has a net worth, computed in accordance with generally accepted accounting principles consistently applied, at least equal to the greater of (1) the Tangible Net Worth of Tenant immediately prior to such Transfer, or (2) the Tangible Net Worth of Tenant herein named on the

Execution Date. For the purposes hereof, an "**Affiliated Entity**" shall be defined as any entity (xx) that has the financial wherewithal to meet its obligations under the Transfer instrument; and (yy) which is controlled by, is under common control with, or which controls Tenant. As used herein, "**control**" means direct or, either together with others acting as a group or otherwise, indirect ownership or possession of the right or power, by vote of stockholders or directors, or by contract, agreement or other arrangements, or otherwise, to direct, determine, prevent or otherwise dictate managerial, operational or other actions or activities of any such person, firm or corporation. For the purposes hereof, "**Successor**" shall mean any entity into or with which Tenant is merged or with which Tenant is consolidated or which results from any other form of corporate reorganization or which acquires all or substantially all of Tenant's stock or assets, provided that the surviving entity shall have a net worth and other financial indicators sufficient to meet Tenant's obligations hereunder. For the purposes hereof, "**Tangible Net Worth**" shall mean the excess of total assets over total liabilities (in each case, determined in accordance with GAAP) excluding from the determination of total assets all assets which would be classified as intangible assets under GAAP, including goodwill, licenses, patents, trademarks, trade names, copyrights, and franchises. Notwithstanding the provisions of this Section 13.7, no transaction or series of transactions which are effected solely for the purpose of qualifying as a transaction which does not require Landlord's consent (i.e. and thereby avoiding the operation of the provisions of this Article 13) shall be permitted pursuant to this Section 13.7.

13.8 Investment Policies

Notwithstanding anything to the contrary contained herein, Tenant may not enter into any Transfer with any person or entity if the identity of such person or entity is inconsistent with the written investment policies of Landlord and/or Landlord's parent (as the same may change from time to time) as provided to Tenant by Landlord prior to Landlord's receipt of Tenant's notice of such proposed Transfer, and any such Transfer shall be void ab initio. The provisions of this Section 13.8 shall apply to all Transferees, including Affiliated Entities and Successors. Notwithstanding the foregoing, the provisions of this Section 13.8 shall be of no further force and effect if Landlord and/or Fee Owner are no longer affiliates of Massachusetts Institute of Technology.

14. INSURANCE; INDEMNIFICATION; EXCULPATION

14.1 Tenant's Insurance

Tenant shall procure, pay for and keep in force throughout the Term (and for so long thereafter as Tenant remains in occupancy of the Premises) commercial general liability insurance and such other insurance specified on Exhibit 12 attached hereto.

During all construction by Tenant at the Premises (including the Tenant Improvements and any Alterations), the insurance required in Exhibit 11A must be in place.

14.2 Landlord's Insurance

Landlord shall take out and maintain in force throughout the Term hereof, in a company or companies authorized to do business in the Commonwealth of Massachusetts: (a) property insurance on the Building (exclusive of Tenant's Property (as defined in Exhibit 12), Tenant-Insured Improvements and alterations made by other tenants or occupants) in an amount equal to the full replacement value of the Building (exclusive of foundations and those items set forth in the preceding parenthetical in this sentence), covering fire, vandalism, malicious mischief, extended coverage and so-called "special form" or special cause of loss property insurance; and (b) commercial general liability insurance against claims of bodily injury, personal injury and property damage arising out of Landlord's operation of the Building

in such amount as a prudent owner of similar property would carry or as otherwise required by any Mortgagee. The foregoing insurance may be maintained in the form of a blanket policy covering the Building as well as other properties owned by Landlord and Landlord's affiliates. Notwithstanding the foregoing provisions of this Section 14.2, Landlord shall have the right to self-insure all or any portion of the coverages required by this Section 14.2 so long as (i) Landlord is, or is affiliated with, Massachusetts Institute of Technology, or (ii) Landlord (or the entity controlling Landlord) has a tangible net worth equal to or greater than Five Hundred Million Dollars ($500,000,000).

14.3 Waiver of Subrogation; Mutual Release

Landlord and Tenant each hereby waives on behalf of itself and its property insurers (none of which shall ever be assigned any such claim or be entitled thereto due to subrogation or otherwise) any and all rights of recovery, claim, action, or cause of action against the other and its agents, officers, servants, partners, shareholders, or employees (collectively, the "**Related Parties**") for any loss or damage (excluding rights of recovery, claims, actions, and causes of action relating to damage to the roof of the Building caused by Tenant but including rights of recovery, claims, actions, and causes of action relating to damage to the roof of the Building caused by any Casualty (hereinafter defined)) that may occur to or within the Premises or the Building or any improvements thereto, or any personal property of such party therein which is insured against under any property insurance policy actually being maintained by the waiving party from time to time, even if not required hereunder, or which would be insured against under the terms of any insurance policy required to be carried or maintained by the waiving party hereunder, whether or not such insurance coverage is actually being maintained, including, in every instance, such loss or damage that may be caused by the negligence of the other party hereto and/or its Related Parties. Landlord and Tenant hereby waives on behalf of itself and its liability insurers (none of which shall ever be assigned any such claim or be entitled thereto due to subrogation or otherwise) any and all rights of recovery, claim, action, or cause of action against the other and/or its Related Parties for any liability, loss or damage that is insured against under any liability insurance policy actually being maintained by such from time to time, even if not required hereunder, or which would be insured against under the terms of any insurance policy required to be carried or maintained by such party hereunder, whether or not such insurance coverage is actually being maintained, including, in every instance, such loss or damage that may be caused by the negligence of the other party and/or its Related Parties. Landlord and Tenant each agrees to cause appropriate clauses to be included in its insurance policies necessary to implement the foregoing provisions.

14.4 Indemnification

(a) Except to the extent caused by the gross negligence or willful misconduct of Landlord or the Landlord Parties, but subject to Massachusetts General Laws Chapter 186, Section 15, Tenant shall defend, indemnify and save the Landlord Parties harmless from and against any and all Claims asserted by or on behalf of any person, firm, corporation or public authority arising from:

(i) Tenant's breach of any covenant or obligation under this Lease;

(ii) Any injury to or death of any person, or loss of or damage to property, sustained or occurring in, upon, at or about the Premises or the Building;

(iii) Any injury to or death of any person, or loss of or damage to property (A) arising out of the use or occupancy of the Premises or the Property by and/or (B) caused by or arising from the negligence or willful misconduct of any of the Tenant Parties; and

(iv) On account of or based upon any work or thing whatsoever done (other than by Landlord or any of the Landlord Parties) at the Premises during the Term and during the period of time, if any, prior to the Commencement Date that any of the Tenant Parties may have been given access to the Premises.

(b) Except to the extent caused by the negligence or willful misconduct of any of the Tenant Parties, Landlord shall, subject to Sections 14.3, 20.9 and 25.9 hereof, defend, indemnify and save Tenant harmless from and against any and all Claims asserted by or on behalf of any person, firm, corporation or public authority to the extent directly arising from (i) Landlord's breach of any covenant or obligation under this Lease, or (ii) any injury to or death of any person or loss of or damage to property occurring within or about the Premises caused by or arising from the gross negligence or willful misconduct of Landlord or any of the Landlord Parties (but subject to Massachusetts General Laws Chapter 186, Section 15).

14.5 Property of Tenant

Tenant covenants and agrees that, to the maximum extent permitted by Legal Requirements, all of Tenant's Property at the Premises 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, except, subject to Section 14.5 hereof, to the extent such damage or loss is due to the negligence or willful misconduct of any of the Landlord Parties.

14.6 Limitation of Landlord's Liability for Damage or Injury

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 sub-surface or from any other place or caused by dampness, vandalism, malicious mischief or by any other cause of whatever nature, except to the extent caused by or due to the negligence or willful misconduct of any of the Landlord Parties, and then, where notice and an opportunity to cure are appropriate (i.e., where Tenant has an opportunity to know or should have known of such condition sufficiently in advance of the occurrence of any such injury or damage resulting therefrom as would have enabled Landlord to prevent such damage or loss had Tenant notified Landlord of such condition) only after (i) notice to Landlord of the condition claimed to constitute negligence or willful misconduct, and (ii) the expiration of a reasonable time after such notice has been received by Landlord without Landlord having commenced to take 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. Notwithstanding the foregoing, in no event shall any of the Landlord Parties be liable for any loss which is covered by insurance policies actually carried or required to be so carried by this Lease; nor shall any of the Landlord Parties 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 any of the Landlord Parties be liable for any latent defect in the Premises or in the Building.

14.7 Tenant's Acts--Effect on Insurance

Tenant shall not do or permit any Tenant Party to do any act or thing upon the Premises or elsewhere in the Building which will invalidate or be in conflict with any insurance policies or warranties 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. If by reason of Tenant's use of the Premises or the failure of Tenant to comply with the provisions of this Lease the insurance rate applicable to any policy of insurance shall at any time thereafter be higher than it otherwise would be, Tenant shall reimburse Landlord upon demand for that part of any insurance premiums which shall have been charged because of such use or failure by Tenant, together with interest at the Default Rate until paid in full, within ten (10) days after receipt of an invoice therefor.

15. CASUALTY; TAKING

15.1 Damage

If the Premises are damaged in whole or part because of fire or other insured casualty ("**Casualty**"), or if the Premises are subject to a taking in connection with the exercise of any power of eminent domain, condemnation, or purchase under threat or in lieu thereof (any of the foregoing, a "**Taking**"), then unless this Lease is terminated in accordance with Section 15.2 below, Landlord shall restore the Building and/or the Premises to substantially the same condition as existed on the Commencement Date, or in the event of a partial Taking which affects the Building and the Premises, restore the remainder of the Building and the Premises not so Taken to substantially the same condition as is reasonably feasible. If, in Landlord's reasonable judgment, any element of the Tenant-Insured Improvements can more effectively be restored as an integral part of Landlord's restoration of the Building or the Premises, such restoration shall also be made by Landlord, but at Tenant's sole cost and expense. Subject to rights of Mortgagees, any act or omission by Tenant and/or Tenant's agents, servants, employees, contractors, subcontractors, licensees and/or subtenants (collectively with Tenant, the "**Tenant Parties**") which causes an actual delay in the performance of Landlord's restoration, Legal Requirements then in existence and to delays for adjustment of insurance proceeds or Taking awards, as the case may be, and instances of Landlord's Force Majeure, Landlord shall use commercially reasonable efforts to apply for any required permits within ninety (90) days of such Casualty or partial Taking and substantially complete such restoration within one (1) year after Landlord's receipt of such required permits therefor. Upon substantial completion of such restoration by Landlord, Tenant shall use diligent efforts to complete restoration of the Premises to substantially the same condition as existed immediately prior to such Casualty or Taking, as the case may be, as soon as reasonably possible. Tenant agrees to cooperate with Landlord in such manner as Landlord may reasonably request to assist Landlord in collecting insurance proceeds due in connection with any Casualty which affects the Premises or the Building. In no event shall Landlord be required to expend more than the Net (hereinafter defined) insurance proceeds Landlord receives (or amount of insurance proceeds Landlord would have received if Landlord had maintained the insurance required by this Lease) for damage to the Premises and/or the Building or the Net Taking award attributable to the Premises and/or the Building. "**Net**" means the insurance proceeds or Taking award actually paid to Landlord (and not paid over to a Mortgagee) less all costs and expenses, including adjusters and attorney's fees, of obtaining the same. In the fiscal year in which a Casualty occurs, there shall be included in Operating Costs Landlord's deductible under its property insurance policy. Except as Landlord may elect pursuant to this Section 15.1, under no circumstances shall Landlord be required to repair any damage to, or make any repairs to or replacements of, any Tenant-Insured Improvements. Notwithstanding the foregoing, in the event of a Casualty or Taking, Tenant's obligation to pay Base Rent and additional rent shall abate (in proportion to the portion of the Premises affected by such Casualty or Taking) until the Premises are restored, provided however, Tenant shall not be entitled to such abatement of Rent for any period Tenant is entitled to receive business interruption insurance pursuant to Exhibit 12.

15.2 Termination Rights

(a) Landlord's Termination Rights. Landlord may terminate this Lease upon thirty (30) days' prior written notice to Tenant if:

(i) any material portion of the Building or any material means of access thereto is taken;

(ii) more than fifty percent (50%) of the Building is damaged by Casualty; or

(iii) if the estimated time to complete restoration exceeds one (1) year from the date on which Landlord receives all required permits for such restoration.

(b) Tenant's Termination Right. If Landlord is so required but fails to complete restoration of the Premises within the time frames and subject to the conditions set forth in Section 15.1 above, then Tenant may terminate this Lease upon thirty (30) days' written notice to Landlord; provided, however, that if Landlord completes such restoration within thirty (30) days after receipt of any such termination notice, such termination notice shall be null and void and this Lease shall continue in full force and effect. The remedies set forth in this Section 15.2(b) and in Section 15.2(c) below are Tenant's sole and exclusive rights and remedies based upon Landlord's failure to complete the restoration of the Premises as set forth herein.

(c) Either Party May Terminate. In the case of any Casualty or Taking affecting the Premises and occurring during the last twelve (12) months of the Term, then (i) if such Casualty or Taking results in more than fifty percent (50%) of the floor area of the Premises being unsuitable for the Permitted Uses, or (ii) the damage to the Premises costs more than $1,000,000 to restore, then either Landlord or Tenant shall have the option to terminate this Lease upon thirty (30) days' written notice to the other. In addition, if any Mortgagee does not release sufficient insurance proceeds to cover the cost of Landlord's restoration work, Landlord shall notify Tenant thereof. In such event, unless Landlord or Tenant agrees in writing to cover the difference, Landlord or Tenant may terminate this Lease by written notice to the other within thirty (30) days after such notice from Landlord.

(d) Automatic Termination. In the case of a Taking of the entire Premises, then this Lease shall automatically terminate as of the date of possession by the Taking authority.

(e) Tenant shall assign to Landlord all of its right, title and interest in and to the insurance proceeds for the Tenant Improvements, and any other Alterations (a) if the Term shall expire prior to the completion of Tenant's restoration pursuant to Section 15.1 above, or (ii) if this Lease is terminated pursuant to any provision of this Lease prior to the completion of Tenant's restoration pursuant to Section 15.1 above, in each case equal to the sum of (A) the unamortized amounts paid pursuant to the Work Letter by Landlord for the Tenant Improvements, and (B) the unamortized costs of any portion of any Alterations that were not designated for removal pursuant to Article 11.

(f) Notwithstanding anything to the contrary contained herein, Tenant may not terminate this Lease pursuant to this Article 15 if the Casualty in question was caused by the negligence or willful misconduct of any of the Tenant Parties.

15.3 Taking for Temporary Use

If the Premises are Taken for temporary use, this Lease and Tenant's obligations, including without limitation the payment of Rent, shall continue, subject to abatement as set forth in Section 15.1 above. For purposes hereof, a "**Taking for temporary use**" shall mean a Taking of ninety (90) days or less.

15.4 Disposition of Awards

Except for any separate award for Tenant's movable trade fixtures, relocation expenses, and unamortized leasehold improvements paid for by Tenant (provided that the same may not reduce Landlord's award), all Taking awards to Landlord or Tenant shall be Landlord's property without Tenant's participation, and Tenant hereby assigns to Landlord Tenant's interest, if any, in such award. Tenant may pursue its own claim against the Taking authority.

16. ESTOPPEL CERTIFICATE.

Tenant shall at any time and from time to time within ten (10) days of receipt of Landlord's request, 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 Rent has 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 Landlord, any prospective purchaser of the Building 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 with respect to any such requested certificate, Tenant hereby acknowledging the importance of such certificates in mortgage financing arrangements, prospective sales and the like.

17. HAZARDOUS MATERIALS

17.1 Prohibition

Tenant shall not, without the prior written consent of Landlord, bring or permit to be brought to or kept at, in or on the Premises or elsewhere in the Building or the Property
(a) any inflammable, combustible or explosive fluid, material, chemical or substance (except for de minimis quantities of standard office and cleaning supplies stored in compliance with Environmental Laws (hereinafter defined) and in proper containers); and (b) any Hazardous Material (hereinafter defined), other than the types and quantities of Hazardous Materials which are used by Tenant in the ordinary course of Tenant's business and are listed on Exhibit 13 attached hereto ("**Tenant's Hazardous Materials**"), provided that the same shall at all times be brought to, kept at or used in so-called 'control areas' (the number and size of which shall be identified in the Approved Plans which are subject to Landlord's approval pursuant to the Work Letter) and in accordance with all applicable Environmental Laws (hereinafter defined), any permit or approval issued by any applicable governmental agency or authority and prudent environmental practice and (with respect to medical waste and so-called "biohazard" materials) good scientific and medical practice, and provided further that in no event shall Tenant generate, produce, bring upon, use, store or treat any infectious biological micro-organisms or any other Hazardous Materials in the Premises with a risk category above the level of Biosafety Level 2 as established and described by the Department of Health and Human Services Publication Biosafety in

Microbiological and Biomedical Laboratories (Fifth Edition) (as it may be further revised, the "**BMBL**") or such nationally recognized new or replacement standards as may be reasonably selected by Landlord; and provided further that to the extent any Legal Requirement sets a maximum quantity of any Hazardous Materials which may be stored, used or brought into the Building without additional licensing, permitting or authorizations therefor, Tenant shall not be permitted to use, store or bring into the Building more than such maximum quantity of such Hazardous Materials. In all events, Tenant shall comply with all applicable provisions of the BMBL. Tenant shall be responsible for assuring that all laboratory uses are adequately and properly vented. Without limiting the foregoing, Tenant shall keep and store at the Premises only such quantities of Tenant's Hazardous Materials that Tenant reasonably believes to be necessary for the conduct of its ordinary course of business and consistent with prudent industry practice. On or before each anniversary of the Rent Commencement Date, and at least thirty (30) days prior to any earlier date during the 12-month period on which Tenant intends to add a new Hazardous Material to, or materially increase the quantity of any Hazardous Material already on, the list of Tenant's Hazardous Materials, Tenant shall submit to Landlord an updated list of Tenant's Hazardous Materials for Landlord's review and approval, which approval shall not be unreasonably withheld, conditioned or delayed. Tenant shall provide such further information concerning any Tenant's Hazardous Materials and/or their use, storage and/or disposal within thirty (30) days of Landlord's reasonable request concerning the same. Landlord shall have the right, from time to time, to inspect the Premises for compliance with the terms of this Section 17.1 at Tenant's sole cost and expense. With respect to any Hazardous Material brought or permitted to be brought or kept in or on the Premises or elsewhere in the Building or the Property in accordance with the foregoing, Tenant shall (i) not permit any such Hazardous Material to escape, be released or be disposed in or about the Premises, the Building or the Land and (ii) within five (5) business days of Landlord's reasonable request, which request shall not be made more frequently than one time per calendar year unless otherwise required by a governmental authority or Landlord reasonably suspects, that a release of a Hazardous Material has occurred upon the Premises, provide evidence reasonably satisfactory to Landlord of Tenant's compliance with all applicable Environmental Laws including copies of all licenses, permits and registrations that Tenant has been required to obtain prior to handling any Hazardous Material at the Premises and that have not been previously provided to Landlord. 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 (hereinafter defined), prudent environmental practice and (with respect to medical waste and so-called "biohazard" materials) good scientific and medical practice, Tenant shall, upon written notice from Landlord, no longer have the right to bring such material into the Building or the Property until Tenant has demonstrated, to Landlord's reasonable satisfaction, that Tenant has implemented programs to thereafter properly handle, store or dispose of such material. In order to induce Landlord to waive its otherwise applicable requirement that Tenant maintain insurance in favor of Landlord against liability arising from the presence of radioactive materials in the Premises, and without limiting the foregoing, Tenant hereby represents and warrants to Landlord that at no time during the Term will Tenant bring upon, or permit to be brought upon, the Premises any radioactive materials, other than such radioactive materials allowed by Tenant's existing permit and such other radioactive materials approved by the Massachusetts Department of Public Health Radiation Control Program of which Landlord has provided its prior written approval, and are used, stored and disposed of in compliance with all Legal Requirements.

17.2 Environmental Laws

For purposes hereof, "**Environmental Laws**" shall mean all laws, statutes, ordinances, rules and regulations of any local, state or federal governmental authority having jurisdiction concerning environmental, health and safety matters, including but not limited to any discharge by any of the Tenant Parties into the air (including indoor air and outdoor air), surface water, sewers, soil or groundwater of any Hazardous Material (hereinafter defined) whether within or outside the Premises, including, without

limitation (a) the Federal Water Pollution Control Act, 33 U.S.C. Section 1251 et seq., (b) the Federal Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq., (c) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601 et seq., (d) the Toxic Substances Control Act of 1976, 15 U.S.C. Section 2601 et seq., (e) Chapter 21C of the General Laws of Massachusetts; and (f) Chapter 21E of the General Laws of Massachusetts. Tenant, at its sole cost and expense, shall comply with (i) all Environmental Laws, and (ii) any rules, requirements and safety procedures of the Massachusetts Department of Environmental Protection, the City of Cambridge and any insurer of the Building or the Premises with respect to Tenant's use, storage and disposal of any Hazardous Materials.

17.3 Hazardous Material Defined

As used herein, the term "**Hazardous Material**" means asbestos, oil or any hazardous, radioactive or toxic substance, material or waste or petroleum derivative which is or becomes regulated by any Environmental Law, including without limitation live organisms, viruses and fungi, medical waste and any so-called "biohazard" materials, and any material on the right to know list of the Occupational Safety and Health Administration. The term "**Hazardous Material**" includes, without limitation, oil and/or any material or substance which is (i) designated as a "hazardous substance," "hazardous material," "oil," "hazardous waste" or toxic substance under any Environmental Law or (ii) contains any component now or hereafter designated as such.

17.4 Testing

If any Mortgagee or governmental authority requires testing to determine whether there has been any release of Hazardous Materials and such testing is required as a result of the acts or omissions of any of the Tenant Parties, then Tenant shall reimburse Landlord upon demand, as additional rent, for the reasonable costs thereof, together with interest at the Default Rate until paid in full. Tenant shall execute affidavits, certifications and the like, as may be reasonably requested by Landlord from time to time concerning Tenant's best knowledge and belief concerning the presence of Hazardous Materials in or on the Premises, the Building or the Property.

17.5 Activity and Use Limitation

Reference is hereby made to that certain Notice of Activity and Use Limitation dated August 6, 1997 by Massachusetts Institute of Technology recorded with the Registry on August 6, 1997 in Book 27554, Page 218, as affected by Amendment and Ratification of Notice of Activity and Use Limitation dated as of May 1, 2002 and recorded with the Registry in book 35391, Page 448 as affected by Partial Termination of Notice of Activity and Use Limitation dated April 30, 2009 and recorded with the Registry in Book 52727, Page 369 (collectively, the "**AUL**"). The AUL is hereby incorporated into this Lease in full by this reference.

17.6 Acid Neutralization Tank.

The Premises shall be delivered by Landlord with the presently existing acid neutralization tank in its current location (the "**Acid Neutralization Tank**"). Tenant shall obtain and maintain during the Term (a) any permit ("**MWRA Permit**") required by the Massachusetts Water Resources Authority ("**MWRA**") and (b) a wastewater treatment operator license from the Commonwealth of Massachusetts with respect to Tenant's use of the Acid Neutralization Tank (as defined below) in the Building. If and to the extent required by the Legal Requirements, Tenant shall establish and maintain a chemical safety program administered by a licensed, qualified individual in accordance with the requirements of the MWRA and any other applicable governmental authority. Tenant shall be solely responsible for all costs

incurred in connection with such chemical safety program, and, within ten (10) business days of Landlord's request, Tenant shall provide Landlord with such documentation as Landlord may reasonably require evidencing Tenant's compliance with the requirements of (m) the MWRA and any other applicable governmental authority with respect to such chemical safety program and (n) this Section. Tenant shall not introduce anything into the Acid Neutralization Tank (x) in violation of the terms of the MWRA Permit, (y) in violation of the Legal Requirements or (z) that would interfere with the proper functioning of the Acid Neutralization Tank. Tenant agrees to reasonably cooperate with Landlord in order to obtain the MWRA Permit and the wastewater treatment operator license. Tenant shall reimburse Landlord within ten (10) business days after demand for any costs incurred by Landlord as a result of Tenant's violation of the terms of this Section. Costs incurred by Landlord connection with the MWRA Permit and the Acid Neutralization Tank shall be included in Operating Costs. Tenant shall defend, indemnify and hold harmless the Landlord Parties from and against any and all Claims, including (a) diminution in value of the Property or any portion thereof, (b) damages for the loss or restriction on use of rentable or usable space or of any amenity of the Property, (c) damages arising from any adverse impact on marketing of space in the Property or any portion thereof and (d) sums paid in settlement of Claims that arise during or after the Term as a result of Tenant's improper use of the Acid Neutralization Tank. This indemnification by Tenant includes costs incurred in connection with any investigation of site conditions or any clean-up, remediation, removal or restoration required by any governmental authority arising from Tenant's use of the Acid Neutralization Tank.

17.7 Hazardous Materials Indemnity; Remediation.

(a) Tenant hereby covenants and agrees to indemnify, defend and hold the Landlord Parties harmless from and against any and all Claims against any of the Landlord Parties arising out of contamination of any part of the Property or other adjacent property, or exacerbation of any contamination of any part of the Property or adjacent property, which contamination or exacerbation, as the case may be, arises as a result of: (i) the presence of Hazardous Material in the Premises, the presence of which is caused by any act or omission of any of the Tenant Parties, or (ii) from a breach by Tenant of its obligations under this Article 17. This indemnification of the Landlord 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 or any other response action required by any federal, state or local governmental agency or political subdivision because of Hazardous Material present in the soil, soil vapor, or ground water at, on or under, or any indoor air in, the Building based upon the circumstances identified in the first sentence of this Section 17.7. In the event Tenant's indemnity obligations under both Section 14.3 above and this Section 17.7 apply, the broader indemnity shall be applicable. Without limiting the foregoing, if the presence of any Hazardous Material in the Building or otherwise at the Property is caused or permitted by any of the Tenant Parties and results in any contamination of any part of the Property or any adjacent property, Tenant shall promptly take all actions at Tenant's sole cost and expense as are necessary to return the Property and/or the Building or any adjacent property to their condition as of the date of this Lease, provided that Tenant shall first obtain Landlord's written approval of such actions, 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 adverse effect on the Property, and, in any event, Landlord shall not withhold its approval of any proposed actions which are required by applicable Environmental Laws.

(b) Without limiting the obligations set forth in Section 17.7(a) above, if any Hazardous Material is in, on, under, at or about the Building or the Property as a result of the acts or omissions of any of the Tenant Parties and results in any contamination of any part of the Property or any adjacent property that is in violation of any applicable Environmental Law or that requires the performance of any response action pursuant to any Environmental Law, Tenant shall promptly take all actions at Tenant's sole cost and expense as are necessary to reduce such Hazardous Material to amounts

below any applicable Reportable Quantity, any applicable Reportable Concentration and any other applicable standard set forth in any Environmental Law such that (i) no further response actions, (ii) no Activity and Use Limitation (as that term is defined in the Massachusetts Contingency Plan, 310 CMR 40.0000 et seq. (the "**MCP**")), and (iii) no Condition, (as that term is defined in the MCP) is or are required; provided that Tenant shall first obtain Landlord's written approval of such actions, which approval shall not be unreasonably withheld, conditioned or delayed so long as such actions would not be reasonably expected to have an adverse effect on the market value or utility of the Property for the Permitted Uses, and in any event, Landlord shall not withhold its approval of any proposed actions which are required by applicable Environmental Laws and comply with the provisions of Sections 17.7(b)(i), (ii), and (iii), above (such approved actions, "**Tenant's Remediation**").

(c) In the event that Tenant fails to complete Tenant's Remediation prior to the end of the Term, then:

(i) until the completion of Tenant's Remediation (as evidenced by the certification of Tenant's Licensed Site Professional (as such term is defined by applicable Environmental Laws), who shall be reasonably acceptable to Landlord) (the "**Remediation Completion Date**"), Tenant shall pay to Landlord, with respect to the portion of the Premises which reasonably cannot be occupied by a new tenant until completion of Tenant's Remediation, (A) additional rent on account of Operating Costs and Taxes and (B) Base Rent in an amount equal to the greater of (1) the fair market rental value of such portion of the Premises (determined in substantial accordance with the process described in Section 1.2 above), and (2) Base Rent attributable to such portion of the Premises in effect immediately prior to the end of the Term; and

(ii) Tenant shall maintain responsibility for Tenant's Remediation and Tenant shall complete Tenant's Remediation as soon as reasonably practicable in accordance with all Environmental Laws. If Tenant does not diligently pursue completion of Tenant's Remediation, Landlord shall have the right to either (A) assume control of the performance of Tenant's Remediation, in which event Tenant shall pay all reasonable costs and expenses of Tenant's Remediation (it being understood and agreed that all costs and expenses of Tenant's Remediation incurred pursuant to contracts entered into by Tenant shall be deemed reasonable) within thirty (30) days of demand therefor (which demand shall be made no more often than monthly), and Landlord shall be substituted as the party identified on any governmental filings as the party performing such Tenant's Remediation or (B) require Tenant to maintain responsibility for Tenant's Remediation, in which event Tenant shall complete Tenant's Remediation as soon as reasonably practicable in accordance with all Environmental Laws, it being understood that Tenant's Remediation shall not contain any requirement that Tenant remediate any contamination to levels or standards more stringent than those associated with the Property's current office, research and development, laboratory, and vivarium uses.

(d) Notwithstanding any term or condition of this Section 17.7 to the contrary, in no event shall Tenant have any liability with respect to, responsibility to indemnify Landlord (or any Landlord Parties) for, or responsibility to remediate any Hazardous Material contamination on any part of the Property existing prior to the Execution Date, including without limitation, any contamination described in the AUL, but excluding the disturbance by Tenant or any other Tenant Parties of any asbestos or asbestos containing materials that may be located in the Premises as of the Execution Date.

18. RULES AND REGULATIONS

18.1 Rules and Regulations

Tenant will faithfully observe and comply with all rules and regulations promulgated from time to time with respect to the Building, the Property and construction within the Property of which Tenant has received prior written notice (collectively, the "**Rules and Regulations**"). The current version of the Rules and Regulations is attached hereto as Exhibit 14. In the case of any conflict between the provisions of this Lease and any future rules and regulations, the provisions of this Lease shall control. 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, its servants, employees, agents, contractors, visitors, invitees or licensees.

18.2 Energy Conservation

Notwithstanding anything to the contrary contained herein, Landlord may institute upon written notice to Tenant such policies, programs and measures as may be necessary, required, or expedient for the conservation and/or preservation of energy or energy services (collectively, the "**Conservation Program**"), provided, however, that the Conservation Program does not, by reason of such policies, programs and measures, reduce the level of energy or energy services being provided to the Premises below the level of energy or energy services then being provided in comparable first class combination office and laboratory buildings in the East Cambridge/ Kendall Square area, or as may be necessary or required to comply with Legal Requirements or standards or the other provisions of this Lease. Upon receipt of such notice, Tenant shall comply with the Conservation Program.

18.3 Recycling

Landlord may establish policies, programs and measures for the recycling of paper, products, plastic, tin and other materials (a "**Recycling Program**"). Upon receipt of such notice, Tenant will comply with the Recycling Program at Tenant's sole cost and expense.

19. LEGAL REQUIREMENTS

19.1 Legal Requirements

Tenant shall be responsible at its sole cost and expense for complying with (and keeping the Premises in compliance with) all Legal Requirements which are applicable to Tenant's particular use or occupancy of, or Alterations made by or on behalf of Tenant to, the Premises. In addition, Tenant shall, at Tenant's sole expense, comply with any "tenant" obligations pursuant to any Parking and Traffic Demand Management Plan now or hereafter applicable to the Property (including without limitation any obligation to subsidize mass transit monthly passes for employees and providing information to Landlord in connection with any reporting requirements thereunder) and cooperate with Landlord in encouraging employees to seek alternate modes of transportation. Tenant shall furnish all data and information to governmental authorities, with a copy to Landlord, as required in accordance with Legal Requirements as they relate to Tenant's use or occupancy of the Premises or the Building. If Tenant receives notice of any violation of Legal Requirements applicable to the Premises or the Building, it shall give prompt notice thereof to Landlord. Nothing contained in this Section 19.1 shall be construed to expand the uses permitted hereunder beyond the Permitted Uses.

19.2 Required Permits

Tenant shall, at Tenant's sole cost and expense, apply for, seek and obtain all necessary state and local licenses, permits and approvals needed for the operation of Tenant's business (collectively, the "**Required Permits**"), including the Landlord Required License (as hereinafter defined). Tenant shall thereafter maintain all Required Permits. Tenant, at Tenant's expense, shall at all times comply with the terms and conditions of each such Required Permit. Tenant's foregoing obligations include, but are not limited to, obtaining, maintaining and complying with any license required by Legal Requirements for the storage of flammable materials. Landlord shall reasonably cooperate with Tenant, at Tenant's sole cost and expense, in connection with its application for Required Permits, which includes a right and obligation on the part of Landlord to attend and participate in public hearings or meetings with Governmental Authorities and/or abutting property owners and community groups, and, if necessary or appropriate, to communicate with public officials, abutters and community groups. Notwithstanding the foregoing, and to the extent any license from the Cambridge License Commission (or the Cambridge Fire Department, as the case may be) for the storage of flammable materials is required by Legal Requirements to be obtained by Landlord (a "**Landlord Required License**"), and if Landlord does not execute any application for the Landlord Required License that Tenant prepares for Landlord (which Tenant shall be responsible for filing) on the City of Cambridge's required form and that provides for flammable materials that are the same as the materials specified in Exhibit 13 attached hereto (as revised from time to time pursuant to the terms of this Lease) and that are not in excess of seven hundred ninety three (793) gallons in the aggregate, Landlord agrees that in the event Landlord does not execute such application within thirty (30) days after Landlord's receipt of a written completed application from Tenant (or receipt of a written notice from the Cambridge License Commission or any other governmental authority having jurisdiction over the Building, as the case may be), Tenant may apply for, obtain and maintain such Landlord Required License on behalf of Landlord, and Landlord shall be responsible for paying for any application or maintenance fees therefor. In the event Tenant exercises its right to apply for, obtain and/or maintain such Landlord Required License, and, if pursuant to Legal Requirements, Tenant is required to be named as Landlord's agent and attorney-in-fact in connection with such application or maintenance of such Landlord Required License, then Landlord shall either execute such documentation reasonably requested by Tenant to appoint Tenant to act as Landlord's agent and attorney-in-fact in connection therewith or, Landlord, in its sole and absolute discretion, may elect to undertake to obtain and maintain the Landlord Required License. In the event Landlord fails to reasonably cooperate with Tenant or to execute such documentation reasonably requested by Tenant to appoint Tenant to act as Landlord's agent and attorney-in-fact, as required by this Section 19.2, to the extent required by Legal Requirements, or, if Landlord opts not to execute such documents, Landlord fails to undertake to obtain the Landlord Required License, within thirty (30) days of Landlord's receipt of written notice of such failure from Tenant, and as a direct result of such failure Tenant is prevented or prohibited from legally storing and/or using flammable and combustible materials in the Premises, Tenant's obligation to pay Rent shall abate for the period commencing on the thirty-first (31st) day following Landlord's receipt of such written notice of Landlord's failure and ending on the day that Landlord has remedied such failure. Within ten (10) business days of a request by Landlord, which request shall be made not more than once during each period of twelve (12) calendar months during the Term hereof unless otherwise requested by an Mortgagee or unless Landlord reasonably suspects that Tenant has violated the provisions of this Section 19.2, Tenant shall furnish Landlord with copies of all Required Permits together with a certificate certifying that such permits are all of the permits that Tenant has obtained with respect to the Premises. If Landlord, in its reasonable discretion, determines that Tenant is not adequately or diligently prosecuting the Landlord Required License, then Landlord, upon prior notice to Tenant, may elect to undertake to obtain and maintain the Landlord Required License at Tenant's sole cost.

On or prior to July 15, 2020 (the "**Permit Drawings Submission Date**"), Tenant shall submit to Landlord a permit set of drawings that are the logical evolution of the Design Development Drawings (as defined in the Work Letter) approved by Landlord pursuant to the Work Letter, and on or prior to July 20, 2020 (the "**Landlord Required License Application Date**"), Tenant, with a copy(ies) to Landlord, shall apply for the Landlord Required License and a flammable storage permit from the City of Cambridge Fire Department for Tenant's flammable materials to be used in the Premises (the "**Flammable Storage Permit**").

As used in this Section 19.2, the term "**Landlord Required License Issuance Date**" shall be the date that is six (6) months after the Commencement Date.

If on the Landlord Required License Issuance Date (i) the Landlord Required License has not been issued for the Property, and (ii) Tenant has obtained a certificate of occupancy (or its substantial equivalent) for the Permitted Use of the Premises, then, provided that Tenant has timely submitted to Landlord the permit set of drawings by the Permit Drawings Submission Date and Tenant has timely submitted a completed application for the Landlord Required License and the Flammable Storage Permit by the Landlord Required License Application Date and Tenant is not in default under this Lease beyond any applicable notice or cure period, the Rent Commencement Date shall be extended one (1) day for each day that occurs after the Landlord Required License Issuance Date until the date the Landlord Required License is issued (the "**Landlord Required License Extension Period**"); provided, however, if Tenant fails to submit completed applications for the Landlord Required License and the Flammable Storage Permit to all required governmental authorities on or prior to the Landlord Required License Application Date, then the Landlord Required License Extension Period shall be reduced one (1) day for each day that occurs between the Landlord Required License Application Date and the date Tenant submits such completed applications for the Landlord Required License and the Flammable Storage Permit. Notwithstanding the immediately foregoing sentence, if Tenant occupies the Premises before or after the Landlord Required License Issuance Date, and Tenant has otherwise complied with the terms and provisions of this paragraph, there shall be no delay in the Rent Commencement Date, however, if Tenant is using the Premises solely for office use, the Base Rent payable under the Lease shall be abated by fifty percent (50%) until such time as the Landlord Required License is obtained.

20. DEFAULT

20.1 Events of Default

The occurrence of any one or more of the following events shall constitute an "**Event of Default**" hereunder by Tenant:

(a) If Tenant fails to make any payment of Rent or any other payment required hereunder, as and when due, and such failure shall continue for a period of five (5) business days after notice thereof from Landlord to Tenant; provided, however, an Event of Default shall occur hereunder without any obligation of Landlord to give any notice if (i) Tenant fails to make any payment within five (5) business days after the due date therefor, and (ii) Landlord has given Tenant written notice under this Section 20.1(a) on more than one (1) occasion during the twelve (12) month interval preceding such failure by Tenant;

(b) If Tenant shall abandon the Premises (whether or not the keys shall have been surrendered or the Rent shall have been paid);

(c) If Tenant shall fail to execute and deliver to Landlord an estoppel certificate pursuant to Article 16 above or a subordination and attornment agreement pursuant to Article 22 below, within the timeframes set forth therein and such failure continues for five (5) business days after notice thereof;

(d) If Tenant shall fail to maintain any insurance required hereunder;

(e) If Tenant shall fail to restore the Security Deposit to its original amount or deliver a replacement Letter of Credit as required under Article 7 above;

(f) If Tenant causes or suffers any release of Hazardous Materials in, on or near the Property and fails to comply with its obligations under Section 17.7 above within the time periods set forth therein;

(g) If Tenant shall make a Transfer in violation of the provisions of Article 13 above, or if 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 13 hereof;

(h) If Tenant fails to comply with the provisions of Section 4.2 above, and such failure shall continue for a period of seven (7) days after notice thereof from Landlord to Tenant; provided, however, an Event of Default shall occur hereunder without any obligation of Landlord to give any notice if (i) Tenant fails to comply with the provisions Section 4.2 above, and (ii) Landlord has given Tenant written notice under this Section 20.1(h) on more than one (1) occasion during the twelve (12) month interval preceding such failure by Tenant;

(i) The failure by Tenant to observe or perform any of the covenants or provisions of this Lease to be observed or performed by Tenant, other than as specified above, and such failure continues for more than thirty (30) days after notice thereof from Landlord; provided, further, that if the nature of Tenant's default is such that more than thirty (30) days are reasonably required for its cure, then Tenant shall not be deemed to be in default if Tenant shall commence such cure within said thirty (30) day period and thereafter diligently prosecute such cure to completion, which completion shall occur not later than ninety (90) days from the date of such notice from Landlord regardless of the reason for lack of completion;

(j) Tenant shall be involved in financial difficulties as evidenced by an admission in writing by Tenant of Tenant's inability to pay its debts generally as they become due, or by the making or offering to make a composition of its debts with its creditors;

(k) 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,

(l) 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;

(m) any judgment, attachment or the like in excess of $100,000 shall be entered, recorded or filed against Tenant in any court, registry, etc. and Tenant shall fail to pay such judgment within thirty (30) days after the judgment shall have become final beyond appeal or to discharge or secure by surety bond such lien, attachment, etc. within thirty (30) days of such entry, recording or filing, as the case may be;

(n) the leasehold hereby created shall be taken on execution or by other process of law and shall not be revested in Tenant within thirty (30) days thereafter;

(o) 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

(p) 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 thirty (30) days or if Tenant is adjudged bankrupt or insolvent as a result of any such proceeding.

Tenant shall reimburse Landlord, within thirty (30) days after demand, for up to $2,500.00 of Landlord's reasonable out-of-pocket costs and expenses (including without limitation legal fees and costs) incurred in connection with the preparation and delivery of each notice of default delivered pursuant to this Section 20.1 (which notice of default may include such demand for payment).

20.2 Remedies

Upon an Event of Default, Landlord may, by notice to Tenant, elect to terminate this Lease; and thereupon (and without prejudice to any remedies which might otherwise be available to Landlord, including without limitation, for arrears of Rent 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 Expiration Date. Upon such termination, Landlord shall have the right to utilize the Security Deposit or draw down the entire Letter of Credit, as applicable, and apply the proceeds thereof to its damages hereunder. 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, by lawful process, 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.

20.3 Damages - Termination

(a) Upon the termination of this Lease under the provisions of this Article 20, Tenant shall pay to Landlord Rent up to the time of such termination, shall continue to be liable for any breach or default preceding such termination, and in addition, shall pay to Landlord as damages, at the election of Landlord, either:

(i) the amount (discounted to present value at the rate of five percent (5%) per annum) by which, at the time of the termination of this Lease (or at any time thereafter if Landlord shall have initially elected damages under Section 20.3(a)(ii) below), (x) the aggregate of Rent projected over the period commencing with such termination and ending on the Expiration Date, exceeds (y) the aggregate projected rental value of the Premises for such period, taking into account a reasonable time period during which the Premises shall be unoccupied, plus all Reletting Costs (hereinafter defined); or

(ii) amounts equal to Rent 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 Expiration Date, 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 and dissimilar expenses properly chargeable against the Premises and the rental therefrom (collectively, "**Releting Costs**"), it being understood that any such re-letting may be for a period equal to or shorter or longer than the remaining Term at Landlord's sole and absolute discretion without otherwise affecting this remedy; and provided, further, that (x) 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 (y) in no event shall Tenant be entitled in any suit for the collection of damages pursuant to this Section 20.3(a)(ii) 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.

(b) In calculating the amount due under Section 20.3(a)(i), above, there shall be included, in addition to the Base Rent, all other considerations agreed to be paid or performed by Tenant, including without limitation the Operating Costs and Taxes, on the assumption that all such amounts and considerations would have increased at the rate of five percent (5%) per annum for the balance of the full term hereby granted.

(c) 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 would have expired if it had not been terminated hereunder.

(d) 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 Event of Default hereunder.

(e) In lieu of any other damages or indemnity and in lieu of full recovery by Landlord of all sums payable under all the foregoing provisions of this Section 20.3, Landlord may, by written notice to Tenant, at any time after this Lease is terminated under any of the provisions herein contained or is otherwise terminated for breach of any obligation of Tenant and before such full recovery, elect to recover, and Tenant shall thereupon pay, as liquidated damages, an amount equal to the aggregate of (x) an amount equal to the lesser of (1) Rent accrued under this Lease in the twelve (12) months immediately prior to such termination, or (2) Rent payable during the remaining months of the Term if this Lease had not been terminated, plus (y) the amount of Rent accrued and unpaid at the time of termination, less (z) the amount of any recovery by Landlord under the foregoing provisions of this Section 20.3 up to the time of payment of such liquidated damages; Tenant hereby acknowledging that the damages which Landlord may suffer as the result of the termination of this Lease as a result of an Event of Default over cannot be determined as of the Execution Date. The terms and provisions of Section 20.3 shall survive the expiration or termination of this Lease.

20.4 Landlord's Self-Help; Fees and Expenses

If a Tenant Event of Default shall occur with respect to the performance of any covenant on Tenant's part to be performed in this Lease contained, including the obligation to maintain the Premises in the required condition pursuant to Section 10.1 above, or if prior to the expiration of any applicable cure period with respect to any non-monetary default of Tenant, Landlord reasonably determines that any further delay in Tenant's curing of the performance of any such covenant is likely to cause further damage to the Premises, Landlord may, upon reasonable advance notice, except that no notice shall be required in an emergency, immediately, or at any time thereafter, perform the same for the account of Tenant. Tenant shall pay to Landlord upon demand therefor any reasonable costs incurred by Landlord in connection therewith, together with interest at the Default Rate until paid in full. In addition, Tenant shall pay all of Landlord's reasonable costs and expenses, including without limitation reasonable attorneys' fees, incurred (i) in enforcing any obligation of Tenant under this Lease or (ii) as a result of Landlord or any of the Landlord Parties being made party to any litigation pending by or against any of the Tenant Parties.

20.5 Waiver of Redemption, Statutory Notice and Grace Periods

Tenant does hereby waive and surrender all rights and privileges which it might have under or by reason of any present or future Legal Requirements 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. Except to the extent prohibited by Legal Requirements, any statutory notice and grace periods provided to Tenant by law are hereby expressly waived by Tenant.

20.6 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; Tenant hereby acknowledging that the damages which Landlord may suffer as the result of the termination of this Lease as a result of an Event of Default over cannot be determined as of the Execution Date.

20.7 No Waiver

Landlord's failure 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 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 either party unless such waiver be in writing signed by such party against whom a waiver is claimed. No payment by Tenant or receipt by Landlord of a lesser amount than the 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.

20.8 Restrictions on Tenant's Rights

During the continuation of any Event of Default, (a) Landlord shall not be obligated to provide Tenant with any notice pursuant to Sections 2.3 and 2.4 above; and (b) Tenant shall not have the right to make, nor to request Landlord's consent or approval with respect to, any Alterations.

20.9 Landlord Default

Notwithstanding anything to the contrary contained in the Lease, Landlord shall in no event be in default in the performance of any of Landlord's obligations under this Lease unless Landlord shall have failed to perform such obligations within thirty (30) days (or such additional time as is reasonably required to correct any such default, provided Landlord commences cure within 30 days and diligently endeavors to correct such default) after written notice by Tenant to Landlord properly specifying wherein Landlord has failed to perform any such obligation (a "**Landlord Default**"). Except as expressly set forth in this Lease, Tenant shall not have the right to terminate or cancel this Lease or to withhold Rent or to set-off or deduct any claim or damages against Rent as a result of any default by Landlord or breach by Landlord of its covenants or any warranties or promises hereunder. In addition, Tenant shall not assert any right to deduct the cost of repairs or any monetary claim against Landlord from Rent thereafter due and payable under this Lease. If Landlord commits a Landlord Default which materially affects Tenant's ability to conduct business in the Premises, Tenant, in addition to any other rights and remedies available under the law, may, without being obligated and without waiving the Landlord Default, cure the Landlord Default ("**Tenant Self-Help**"), provided however, prior to exercising any Tenant's Self Help, Tenant shall provide Landlord with written notice thereof, which notice shall be delivered in an envelope that conspicuously states the following in bold caps: "TENANT NOTICE OF INTENTION TO EXERCISE SELF-HELP" and which notice shall include an explicit statement that such notice is a notice delivered pursuant to this Section 20.9 and Landlord's failure to perform the specified obligation will trigger the provisions of this Section 20.9, and shall specifically state that if Landlord fails to commence to cure such Landlord Default within five (5) business days (the "**Outside Cure Date**"), Tenant intends to exercises Tenant's Self-Help. If Landlord fails to commence to cure such Landlord Default by the Outside Cure Date, Tenant shall then be entitled to exercise Tenant's Self-Help. Landlord shall pay Tenant, within thirty (30) days after written demand, all reasonable third-party out of pocket costs, expenses, and disbursements incurred by Tenant in the exercise of Tenant's Self Help necessary to cure the Landlord Default, including all reasonable legal fees, costs and expenses (including paralegal fees, expert fees, and other professional fees and expenses). It is understood and agreed that Tenant's exercise of any right or remedy due to a Landlord Default shall not be deemed a waiver of or to alter, affect, or prejudice any right or remedy which Tenant may have under this Lease or by law or in equity. Neither the payment of Rent nor any other acts or omissions of Tenant at any time after a Landlord Default, shall operate as a waiver of any past or future violation, breach, or failure to keep or perform any covenant, agreement, term, or condition hereof.

21. SURRENDER; ABANDONED PROPERTY; HOLD-OVER

21.1 Surrender

(a) Upon the expiration or earlier termination of the Term, Tenant shall (i) peaceably quit and surrender to Landlord the Premises broom clean, in good order, repair and condition excepting only ordinary wear and tear and damage by fire or other insured Casualty; (ii) remove all of Tenant's Property (including without limitation all cabling (unless Landlord and Tenant agree otherwise), trade fixtures, furniture and equipment) and, to the extent specified by Landlord at the time of consenting to the same, Alterations made by Tenant, and (iii) repair any damages to the Premises or the Building caused by the installation or removal of Tenant's Property and/or such Alterations. Tenant's obligations under this Section 21.1(a) shall survive the expiration or earlier termination of this Lease.

(b) No act or thing done by Landlord during the Term 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. Unless otherwise agreed by the parties in writing, no employee of Landlord or of Landlord's agents shall have any power to accept the keys of the Premises prior to the expiration or earlier 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 this Lease or a surrender of the Premises.

(c) Notwithstanding anything to the contrary contained herein, Tenant shall, at its sole cost and expense, remove from the Premises, prior to the end of the Term, any item installed by or for Tenant and which, pursuant to Legal Requirements, must be removed therefrom before the Premises may be used by a subsequent tenant.

(d) Tenant hereby assigns to Landlord any warranties in effect on the last day of the Term with respect to any fixtures and Alterations remaining in the Premises. Tenant shall provide Landlord with copies of any such warranties prior to the expiration of the Term (or, if the Lease is earlier terminated, within five (5) days thereafter).

(e) At least sixty (60) days prior to Tenant's surrender of possession of any part of the Premises at the end of the Term (or such shorter time period is necessitated by an early surrender in accordance with the express provisions of this Lease), Tenant shall provide Landlord with a facility decommissioning and Hazardous Materials closure plan for the Premises ("**Decommissioning Plan**") prepared by an independent third party Industrial Hygienist, CIH, which Decommissioning Plan and Industrial Hygienist must be reasonably acceptable to Landlord. The Decommissioning Plan shall comply with the American National Standards Institute's Laboratory Decommissioning guidelines (ANSI/AIHA Z9.11-2008) or any successor standards published by ANSI or any successor organization (or, if ANSI and its successors no longer exist, a similar entity publishing similar standards). In addition, at least fourteen (14) days prior to the expiration of the Term (or any such earlier surrender in accordance with the express provisions of this Lease), Tenant shall (a) provide Landlord with (i) a completed decommissioning report, reasonably acceptable to Landlord, from the Industrial Hygienist evidencing compliance with the Decommissioning Plan, and (ii) written evidence of all appropriate governmental releases obtained by Tenant in accordance with Legal Requirements, including laws pertaining to the surrender of the Premises, (b) place Laboratory Equipment Decontamination Forms on all decommissioned equipment and (c) conduct a site inspection with Landlord. In addition, Tenant agrees to remain responsible after the surrender of the Premises for the remediation of any recognized environmental conditions set forth in the Decommissioning Plan and comply with any recommendations set forth in the Decommissioning Plan. Tenant's obligations under this Section 21.1(e) shall survive the expiration or earlier termination of the Lease.

21.2 Abandoned Property

After the expiration or earlier termination hereof, if Tenant fails to remove any property from the Building or the Premises which Tenant is obligated by the terms of this Lease to remove within five (5) business days after written notice from Landlord, such property (the "**Abandoned Property**") 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 item of Abandoned Property shall be sold, Tenant hereby agrees that Landlord may receive and retain the proceeds of such sale and apply the same, at its option, to the expenses of the sale, the cost of moving and storage, any damages to which Landlord may be entitled under Article 20 hereof or pursuant to law, and to any arrears of Rent.

21.3 Holdover

If any of the Tenant Parties holds over after the end of the Term, Tenant shall be deemed a tenant-at-sufferance subject to the provisions of this Lease; provided that whether or not Landlord has previously accepted payments of Rent from Tenant, (i) during the first sixty (60) days of any such holdover, Tenant shall pay Base Rent at 150% of the highest rate of Base Rent payable during the Term, (ii) after the first sixty (60) days of any such holdover, Tenant shall pay Base Rent at 200% of the highest rate of Base Rent payable during the Term, (iii) Tenant shall continue to pay to Landlord all additional rent, and (iv) after the first thirty (30) days after any such holdover Tenant shall be liable for all damages, including without limitation lost business and consequential damages, incurred by Landlord as a result of such holding over. Tenant hereby acknowledging that Landlord may need the Premises after the end of the Term 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. Nothing contained herein shall grant Tenant the right to holdover after the expiration or earlier termination of the Term or affect Tenant's status as a tenant-at-sufferance during any holdover period.

22. MORTGAGEE RIGHTS

22.1 Subordination

Tenant's rights and interests under this Lease shall be (i) subject and subordinate to any existing or future (a) ground lease (including without limitation the Master Lease), (b) subleases or other instruments pursuant to any sale and leaseback transaction of the Master Lease or the Property, and (c) any mortgages, deeds of trust, overleases, or similar instruments covering the Premises, the Building and/or the Land and to all advances, modifications, renewals, replacements, and extensions thereof (each of the foregoing, a "**Mortgage**"), or (ii) if any Mortgagee elects, prior to the lien of any present or future Mortgage. Tenant further shall attorn to and recognize any successor landlord, whether through foreclosure or otherwise, as if the successor landlord were the originally named landlord. The provisions of this Section 22.1 shall be self-operative and no further instrument shall be required to effect such subordination or attornment ("**SNDA**"); however, Tenant agrees to execute, acknowledge and deliver such instruments, confirming such subordination and attornment in a commercially reasonable form of SNDA within ten (10) days of request therefor. Landlord hereby agrees to use commercially reasonable efforts to obtain an SNDA from any ground lessor, sublessor, or Mortgagee upon request from Tenant. With respect to the Master Lease, Tenant and Landlord shall execute and deliver to the other, simultaneously with its execution and delivery of this Lease, the Subordination, Non-Disturbance and Attornment Agreement (the "**Master Lease SNDA**"), executed by the Master Lessor (as defined in the Master Lease SNDA) in the form attached hereto as Exhibit 15. Landlord may record the Master Lease SNDA in the Registry at its sole cost and expense.

22.2 Mortgagee Notices

Tenant shall give each Mortgagee, at the address provided to Tenant, the same notices given to Landlord concurrently with the notice to Landlord, and each Mortgagee shall have a reasonable opportunity to cure a Landlord default after the expiration of Landlord's applicable notice and/or cure periods if Landlord fails to do so, and Mortgagee's curing of any of Landlord's default shall be treated as performance by Landlord.

22.3 Mortgagee Liability

Tenant acknowledges and agrees that if any Mortgage shall be foreclosed, (a) the liability of the Mortgagee and its successors and assigns shall exist only so long as such Mortgagee or purchaser is the owner of the Premises, and such liability shall not continue or survive after further transfer of ownership; and (b) such Mortgagee and its successors or assigns shall not be (i) liable for any act or omission of any prior lessor under this Lease; (ii) liable for the performance of Landlord's covenants pursuant to the provisions of this Lease which arise and accrue prior to such entity succeeding to the interest of Landlord under this Lease or acquiring such right to possession; (iii) subject to any offsets or defense which Tenant may have at any time against Landlord; (iv) bound by any Rent or other amounts which Tenant may have paid previously for more than one (1) month; or (v) liable for the performance of any covenant of Landlord under this Lease which is capable of performance only by the original Landlord.

23. QUIET ENJOYMENT.

Landlord covenants that 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 peaceably and quietly hold, occupy and enjoy the Premises during the Term from and against the claims of all persons lawfully claiming by, through or under Landlord subject, nevertheless, to the covenants, agreements, terms, provisions and conditions of this Lease, any matters of record or of which Tenant has knowledge and to any Mortgage to which this Lease is subject and subordinate, as hereinabove set forth.

24. NOTICES.

Any notice, consent, request, bill, demand or statement hereunder (each, a "**Notice**") by either party to the other party shall be in writing and shall be deemed to have been duly given when either delivered by hand or by nationally recognized overnight courier or refused, as the case may be (in either case with evidence of delivery or refusal thereof) and addressed as follows:

If to Landlord:	MIT 281-295 Albany Street Leasehold LLC c/o MIT Cambridge Real Estate LLC One Broadway, Suite 09-200 Cambridge, MA 02142 Attention: President
With copies to:	MIT Investment Management Company One Broadway, Suite 09-200 Cambridge, MA 02142 Attention: Director of Real Estate Legal Services
and:	Jones Lang LaSalle Americas, Inc. One Broadway, 6th Floor Cambridge, MA 02142 Attention: Group Manager
With a copy by email to:	RELegal@mitimco.mit.edu

If to Tenant:	40 Erie Street Cambridge, MA 02139 Attention: Chief Financial Officer Email: Glenn.Goddard@intelliatx.com
With copies to:	Intellia Therapeutics, Inc. 40 Erie Street Cambridge, MA 02139 Attention: Office of General Counsel Email: ntlanotice@intelliatx.com and Pierce Atwood LLP 100 Summer Street Boston, MA 02110 Attention: Christopher J. Dole, Esq. Email: cdole@pierceatwood.com

Notwithstanding the foregoing, any notice from Landlord to Tenant regarding ordinary business operations (e.g., exercise of a right of access to the Premises, maintenance activities, invoices, etc.) may also be given by written notice delivered by facsimile or electronic mail to the Director of Facilities (or functional equivalent thereof) of the Tenant (whose name and contact information Tenant shall provide upon request) without copies as specified above. Either party may at any time change the address or specify an additional address for such Notices 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 and is not a post office box. Notices shall be effective upon the date of receipt or refusal thereof. Any notice given by an attorney on behalf of Landlord shall be considered as given by Landlord and shall be fully effective. Any notice given by an attorney on behalf of Tenant shall be considered as given by Tenant and shall be fully effective.

25. MISCELLANEOUS

25.1 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 this Lease (or the remainder of such provision) and the application thereof to other persons or circumstances shall not be affected thereby.

25.2 Captions; Interpretation

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. The normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Lease or any exhibits or amendments hereto. Words of any gender used in this Lease shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, unless the context otherwise requires. Unless expressly stated otherwise, the use of the word “including” in this Lease shall be deemed to mean “including without limitation” in each instance.

25.3 Broker

Tenant and Landlord each warrants and represents that it has dealt with no broker in connection with the consummation of this Lease other than Newmark Knight Frank and Jones Lang LaSalle (collectively, "**Broker**"). Tenant and Landlord each agrees to defend, indemnify and save the other harmless from and against any Claims arising in breach of its representation and warranty set forth in the immediately preceding sentence. Landlord shall be solely responsible for the payment of any brokerage commissions to Broker in connection with this Lease pursuant to separate broker agreements.

25.4 Entire Agreement

This Lease, Lease Summary Sheet and Exhibits 1-15 attached hereto and incorporated herein 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 Tenant in no way relied upon any other statements or representations, written or oral. This Lease may not be modified orally or in any manner other than by written agreement signed by the parties hereto, provided that no amendment or modification may be effected by text message, electronic mail or similar communication.

25.5 Governing Law; Personal Jurisdiction

This Lease is made pursuant to, and shall be governed by, and construed in accordance with, the laws of the Commonwealth of Massachusetts and any applicable local municipal rules, regulations, by-laws, ordinances and the like. Any litigation relating to this Lease shall be brought in the state or federal courts in the Commonwealth of Massachusetts, and each party consents to personal jurisdiction in such courts.

25.6 Representations

(a) Tenant hereby guarantees, warrants and represents to Landlord that (i) Tenant is duly incorporated or otherwise established or formed and validly existing under the laws of its state of incorporation, establishment or formation, (ii) Tenant has and is duly qualified to do business in the state in which the Property is located, (iii) Tenant has full corporate, partnership, trust, limited liability company or other appropriate power and authority to enter into this Lease and to perform all of Tenant's obligations hereunder, (iv) each person (and all of the persons if more than one signs) signing this Lease on behalf of Tenant is duly and validly authorized to do so; and (v) neither the execution, delivery or performance of this Lease, nor the consummation of the transactions contemplated hereby, will violate or conflict with any provision of documents or instruments under which Tenant is constituted or to which Tenant is a party.

(b) Landlord hereby guarantees, warrants and represents to Tenant that (i) Landlord is duly incorporated or otherwise established or formed and validly existing under the laws of the Commonwealth of Massachusetts, (ii) Landlord has full corporate, partnership, trust, limited liability company or other appropriate power and authority to enter into this Lease and to perform all of Landlord's obligations hereunder, (iii) each person (and all of the persons if more than one signs) signing this Lease on behalf of Landlord is duly and validly authorized to do so; and (iv) Landlord is the holder of the leasehold interest in the Premises pursuant to that certain Amended and Restated Master Lease Agreement dated January 1, 2015 by and between MIT 281-295 Albany Street LLC, a Massachusetts limited liability company (the "**Master Lessor**"), as landlord, and Landlord, as tenant (the "**Master Lease**"), the Master Lease is in full force and effect and, to Tenant's knowledge, no default of Landlord or Master Lessor presently exists.

25.7 Expenses Incurred by Landlord Upon Tenant Requests

Tenant shall, upon demand, reimburse Landlord for all reasonable 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 or in connection with requests by Tenant for Landlord's consent to make a Transfer. Such costs shall be deemed to be additional rent under this Lease.

25.8 Survival

Without limiting any other obligation of Tenant which may survive the expiration or prior termination of the Term, all obligations on the part of Tenant to indemnify, defend, or hold Landlord harmless, as set forth in this Lease (including without limitation Section 14.2) shall survive the expiration or prior termination of the Term.

25.9 Limitation of Liability

Tenant shall neither assert nor seek to enforce any claim against Landlord or any of the Landlord Parties, or the assets of any of the Landlord Parties, for breach of this Lease or otherwise, other than against Landlord's interest in the Property, and Tenant agrees to look solely to such interest for the satisfaction of any liability of Landlord under this Lease. This Section 25.9 shall not limit any right that Tenant might otherwise have to obtain injunctive relief against Landlord. **Landlord and Tenant specifically agree that in no event shall any officer, director, manager, member, trustee, employee or representative of Landlord or any of the other Landlord Parties ever be personally liable for any obligation under this Lease, nor shall Landlord or any of the other Landlord Parties be liable for consequential, incidental or punitive damages or for lost profits whatsoever in connection with this Lease.**

25.10 Binding Effect

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 13 hereof shall operate to vest any rights in any successor or assignee of Tenant. A facsimile, PDF or other electronic signature on this Lease shall be equivalent to, and have the same force and effect as, an original signature.

25.11 Landlord Obligations upon Transfer

Upon any sale, transfer or other disposition of the Building, Landlord shall be entirely freed and relieved from the performance and observance accruing 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, except as otherwise agreed in writing.

25.12 Grants of Interest

Tenant shall not grant any security interest whatsoever in (a) any fixtures within the Premises or (b) any item paid in whole or in part with the TI Allowance without the consent of Landlord. Tenant shall notify Landlord within ten (10) business days after the filing of any UCC statement relating to Tenant's Property.

25.13 No Air Rights

No rights to any view or to light or air over any property, whether belonging to Landlord or any other person, are granted to Tenant by this Lease. If at any time any windows of the Premises are temporarily darkened or the light therefrom is obstructed by reason of any repairs, improvements, maintenance or cleaning in or about the Property, the same shall be without liability to Landlord and without any reduction or diminution of Tenant's obligations under this Lease.

25.14 Counterparts

This Lease may be executed in two or more counterparts, and by each or either of the parties in separate counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

25.15 Financial Information

Tenant shall deliver to Landlord, within thirty (30) days of Landlord's request therefor, Tenant's most recently completed balance sheet and related statements of income, shareholder's equity and cash flows statements (audited if available) reviewed by an independent certified public accountant and certified by an officer of Tenant as being true and correct in all material respects. Any such financial information may be relied upon by any actual or potential lessor, purchaser, or mortgagee of the Property or any portion thereof. Tenant's fiscal year is January 1 through December 31. Tenant may change its fiscal year upon written notice to Landlord.

25.16 Measurements

Within sixty (60) days following the date Landlord's Base Building Work is Substantially Completed, Landlord, at Landlord's sole costs and expense, shall cause the Premises to be measured by an architect selected by Landlord in accordance with the then-current Standard Method of Measurement for Combination Laboratory and Office Buildings (ANSI/BOMA) (or if such standard is not in use or no longer in use, using an industry-standard method of measurement reasonably selected by Landlord). Upon Landlord's receipt of such measurement (which measurement shall include reasonable details of the methodology used by the architect performing such measurement), Landlord shall provide same to Tenant for review and approval, which approval shall not be unreasonably withheld, conditioned or delayed. Within ten (10) business days of Tenant's receipt of such measurement (including applicable details of measurement as required above), Tenant shall notify Landlord of any discrepancy or objection. After receipt of any such notice of discrepancy or objection, Landlord shall reasonably cooperate with Tenant to resolve any such discrepancies or objections. Upon final approval of such measurement by both parties, Landlord and Tenant shall make appropriate adjustments to Base Rent, the TI Allowance and any other provisions of this Lease which are based on the rentable square footage of the Premises. Such adjustments shall be reflected in an agreement prepared by Landlord confirming such measurements and adjustments to be executed by Landlord and Tenant within ten (10) business days after the final determination of such measurement. In the event either party has paid any amount based on the original rentable square footage of the Premises (39,000 rsf) prior to such measurement, the parties shall

retroactively adjust the amounts due to the Commencement Date and parties shall pay or be credited with such payment as applicable. Tenant shall pay all Rent when due based on the Base Rent and additional rent provided for in this Lease with the Premises consisting of 39,000 rentable square feet until Landlord and Tenant have executed such measurement agreement or Tenant is deemed to have approved such final measurement. Tenant's failure to execute and return any such agreement proposed by Landlord, or to provide written objection to the measurement or the statements and/or methodology contained therein, or a draft of such agreement proposed by Landlord, within ten (10) business days after the date of Tenant's receipt thereof, shall be deemed an approval by Tenant of Landlord's determination of such measurements and adjustments as set forth therein. Additionally, Landlord and Tenant hereby acknowledge Landlord is currently seeking permits and approvals from the City of Cambridge for Landlord's Base Building Work, and as a result, the Building dimensions and floor area may change to comply with the Legal Requirements or other requirements of city officials. If any such changes are implemented or required, Landlord shall have the right to modify Exhibit 2 and the demising boundaries of the Premises, and shall substitute a new Exhibit 2 in place of the Exhibit 2 currently attached hereto. To the extent any such changes modify the rentable square feet of the Premises, Landlord shall make appropriate adjustments to the Base Rent, the TI Allowance and such other provisions of this Lease which are based on the rentable square footage of the Premises.

25.17 OFAC

Tenant warrants and represents as of the date hereof and throughout the Term that it is not owned or controlled, directly or indirectly, by any person or government from countries or other areas that are subject to economic, trade, sectoral, or transactional sanctions imposed by the United States Government, and that neither Tenant nor any of its owners, directors, officers, affiliates, or group companies appears on any lists of known or suspected terrorists, terrorist organizations or other prohibited persons made publicly available or published by any agency of the government of the United States or any other jurisdiction in which Tenant is doing business, including but not limited to the List of Specially Designated Nationals and Blocked Persons maintained by the Office of Foreign Assets Control of the U.S. Department of the Treasury. Tenant shall notify Landlord immediately if these circumstances change.

25.18 Confidentiality

Tenant acknowledges and agrees that the terms of this Lease are confidential. Disclosure of the terms hereof could adversely affect the ability of Landlord or Landlord's affiliates to negotiate other leases for real property in the Cambridge, Massachusetts area and may impair Landlord's relationship with other tenants of the Building. Tenant agrees that it and its partners, officers, directors, employees, brokers, and attorneys, if any, shall not disclose the terms and conditions of this Lease to any other person or entity, including any media (including social media) or news outlets, without the prior written consent of Landlord, which may be given or withheld by Landlord, in Landlord's sole discretion, except as required for financial disclosures or securities filings, as required by the order of any court or public body with authority over Tenant, or in connection with any litigation between Landlord and Tenant with respect to this Lease. It is understood and agreed that damages alone would be an inadequate remedy for the breach of this provision by Tenant, and Landlord shall also have the right to seek specific performance of this provision and to seek injunctive relief to prevent its breach or continued breach.

25.19 Security

Tenant acknowledges that security devices and services, if any, while intended to deter crime, may not in given instances prevent theft or other criminal acts. Landlord shall not be liable for injuries or losses caused by criminal acts of third parties, and Tenant assumes the risk that any security device or service may malfunction or otherwise be circumvented by a criminal. If Tenant desires protection against such criminal acts, then Tenant shall, at Tenant's sole cost and expense, obtain appropriate insurance coverage. Tenant's security programs and equipment for the Premises shall be coordinated with Landlord and subject to Landlord's reasonable approval.

25.20 Time

Time is of the essence as to the performance of Tenant's obligations under this Lease. Except as expressly set forth herein, any time period which ends on a non-business day shall be extended to the first subsequent business day.

25.21 WAIVER OF JURY TRIAL

TENANT AND LANDLORD WAIVE ANY RIGHT TO TRIAL BY JURY OR TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE, WHETHER IN CONTRACT, TORT, OR OTHERWISE, BETWEEN LANDLORD AND TENANT ARISING OUT OF THIS LEASE OR ANY OTHER INSTRUMENT, DOCUMENT, OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HEREWITH OR THE TRANSACTIONS RELATED HERETO.

25.22 Bankruptcy

In the event a debtor, trustee or debtor in possession under the Bankruptcy Code, or another person with similar rights, duties and powers under any other Legal Requirements, proposes to cure any Tenant default under this Lease or to assume or assign Tenant's interest under this Lease, and is obliged to provide adequate assurance to Landlord that (a) a default shall be cured, (b) Landlord shall be compensated for its damages arising from any breach of this Lease, and (c) future performance of Tenant's obligations under this Lease shall occur, then such adequate assurances shall include any or all of the following, as designated by Landlord in its sole and absolute discretion: (i) those acts specified in the Bankruptcy Code or other Legal Requirements as included within the meaning of "adequate assurance," even of this Lease does not concern a shopping center or other facility described in such Legal Requirements; (ii) a prompt cash payment to compensate Landlord for any monetary defaults or actual damages arising directly from a breach of this Lease; (iii) a cash deposit in an amount at least equal to the then-current amount of the Letter of Credit; or (iv) the assumption or assignment of all of Tenant's interest and obligations under this Lease.

25.23 Not Binding Until Executed

This Lease shall have no binding force or effect, shall not constitute an offer or an option for the leasing of the Premises, nor confer any right or impose any obligations upon either party until execution and delivery of this Lease by both parties.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF the parties hereto have executed this Lease as of the Execution Date.

281-295 ALBANY STREET LEASEHOLD LLC, a
Massachusetts limited liability company

LANDLORD:

By: MIT CAMBRIDGE REAL ESTATE LLC, its manager

By: /s/ Seth D. Alexander
Name: Seth D. Alexander
Title: President, and not individually

TENANT:

INTELLIA THERAPEUTICS, INC., a Delaware corporation

By: /s/ Glenn Goddard
Name: Glenn Goddard
Title: Executive Vice President and Chief Financial Officer

EXHIBIT 10.2

SECOND AMENDMENT TO LEASE

THIS SECOND AMENDMENT TO LEASE ("**Second Amendment**"), is made as of the 12th day of March, 2020, by and between MIT 130 BROOKLINE LEASEHOLD LLC, a Massachusetts limited liability company, successor by assignment to MIT 130 Brookline LLC, a Massachusetts limited liability company ("**Landlord**"), and INTELLIA THERAPEUTICS, INC., a Delaware corporation ("**Tenant**").

WITNESSETH:

WHEREAS, Landlord and Tenant entered into that certain Lease dated October 21, 2014, as amended by that certain First Amendment to Lease dated April 5, 2019 (the "**First Amendment**") (as amended, the "**Lease**"), relating to certain premises (the "**Premises**") within the building located at 130 Brookline Street, Cambridge, Massachusetts (the "**Building**"), as more particularly described therein;

WHEREAS, Tenant and an affiliate of Landlord entered into an Indenture of Lease dated March 12, 2020 for premises at 281 Albany Street, Cambridge, Massachusetts (the "**281 Albany Lease**").

WHEREAS, the parties hereto desire to amend the Lease to, among other things, extend the Term of the Lease to be co-terminus with the 281 Albany Lease;

NOW, THEREFORE, in consideration of the covenants herein reserved and contained, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Landlord and Tenant agree as follows:

1. Capitalized Terms. All capitalized terms used but not defined herein shall have the meanings ascribed to them in the Lease.

2. Extension of Term. Notwithstanding anything to the contrary set forth in the Lease, the Term of the Lease is hereby extended for approximately six (6) years (the "**Extended Term**") commencing February 1, 2025 and expiring on or about January 31, 2031, being co-terminus with the term of the 281 Albany Lease (the "**Expiration Date**"), on all of the terms and conditions of the Lease except as expressly set forth in this Second Amendment. Once the Expiration Date is determined, Landlord and Tenant shall execute an agreement confirming the Expiration Date in substantially the form attached hereto as Exhibit A.

3. Base Rent. During the Extended Term, Tenant shall pay Base Rent in the following amounts and otherwise in accordance with the terms of the Lease:

PERIOD	ANNUAL BASE RENT	MONTHLY PAYMENT	$/RSF
2/1/25 - 1/31/26	$1,673,140.70	$139,428.39	$110.30
2/1/26 - 1/31/27	$1,723,350.09	$143,612.51	$113.61
2/1/27 - 1/31/28	$1,775,076.38	$147,923.03	$117.02
2/1/28 - 1/31/29	$1,828,319.57	$152,359.96	$120.53
2/1/29 - 1/31/30	$1,883,079.66	$156,923.31	$124.14
2/1/30 – Expiration Date*	$1,939,660.03	$161,638.34	$127.87

*In the event the Expiration Date extends beyond January 31, 2031, Base Rent shall increase by three percent (3%) on February 1, 2031 and each anniversary thereof.

4. Extension Terms. Section 1.2 of the Lease and Section 5 of the First Amendment are hereby deleted in their entirety and replaced with the following:

(a) Provided that the following conditions (the "**Extension Conditions**"), any or all of which may be waived by Landlord in its sole discretion, are satisfied: (i) Tenant, an Affiliated Entity and/or a Successor is/are then occupying at least seventy-five percent (75%) of the Premises; and (ii) there is no Event of Default (1) as of the date of an Extension Notice (hereinafter defined), and (2) at the commencement of an Extension Term (hereinafter defined), Tenant shall have the option to extend the Extended Term for two (2) additional consecutive terms of five (5) years each (each individually, an "**Extension Term**", and collectively, the "**Extension Terms**"), commencing as of the expiration of the current Extension Term. Tenant must exercise each option to extend, if at all, by giving Landlord written notice (the "**Extension Notice**") not earlier than fifteen (15) months and no later than twelve (12) months prior to the expiration of the current Extension Term or the first Extension Term, as the case may be, time being of the essence in each instance. Notwithstanding the foregoing, Landlord may nullify Tenant's exercise of its option to extend the Term by written notice to Tenant (the "**Nullification Notice**") if (A) on the date Landlord receives the Extension Notice, there is an event which, with the passage of time and/or the giving of notice, would constitute an Event of Default hereunder and (B) Tenant fails to cure such default within the applicable cure period set forth in Section 20.1 of the Lease after receipt of the Nullification Notice. Upon the satisfaction of the Extension Conditions and the timely giving of the Extension Notice without a subsequent nullification by Landlord, the Term shall be deemed extended upon all of the terms and conditions of this Lease, except that Base Rent during the each of the Extension Terms shall be calculated in accordance with this Section 4. If Tenant fails to give a timely Extension Notice, as aforesaid, Tenant shall have no further right to extend the Extended Term. Notwithstanding the fact that Tenant's proper and timely exercise of such option to extend the

Extension Term shall be self-executing, Tenant shall promptly execute a lease amendment reflecting such Extension Term after Tenant validly exercises its option, if such lease amendment is provided by Landlord. 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 Section 4.

(b) The Base Rent during the first Rent Year of the each of the Extension Terms (the "Extension Term RY1 Base Rent") shall be determined in accordance with the process described hereafter. Extension Term RY1 Base Rent shall be the greater of (i) one hundred three percent (103%) of Base Rent for the last Rent Year of the Initial Term or the first Extension Term, as applicable, or (ii) the fair market rental value of the Premises as of the commencement of the applicable Extension Term as determined in accordance with the process described below, for renewals of combination laboratory and office space in the East Cambridge/ Cambridgeport area of equivalent quality, size, utility and location, with the length of the Extension Term, the credit standing of Tenant and all other relevant factors to be taken into account. Within thirty (30) days after receipt of an Extension Notice, Landlord shall deliver to Tenant written notice of its determination of the Extension Term RY1 Base Rent for the applicable Extension Term. Tenant shall, within thirty (30) days after receipt of such notice, notify Landlord in writing whether Tenant accepts or rejects Landlord's determination of the Extension Term RY1 Base Rent ("Tenant's Response Notice"). If Tenant fails timely to deliver Tenant's Response Notice, Landlord's determination of the Extension Term RY1 Base Rent shall be binding on Tenant.

(c) If and only if Tenant's Response Notice is timely delivered to Landlord and indicates both that Tenant rejects Landlord's determination of the Extension Term RY1 Base Rent and desires to submit the matter to the determination process described in this Section 4(c) (the "Determination Process"), then the Extension Term RY1 Base Rent shall be determined in accordance with the procedure set forth in this Section 4(c). In such event, within ten (10) days after receipt by Landlord of Tenant's Response Notice indicating Tenant's desire to submit the determination of the Extension Term RY1 Base Rent to the Determination Process, Tenant and Landlord shall each notify the other, in writing, of their respective selections of an appraiser or broker (respectively, "Landlord's Appraiser" and "Tenant's Appraiser"). Landlord's Appraiser and Tenant's Appraiser shall then jointly select a third appraiser or broker (the "Third Appraiser") within ten (10) days of their appointment. All of the appraisers or brokers selected shall be individuals with at least ten (10) consecutive years' commercial appraisal or brokerage experience in the East Cambridge/Cambridgeport area, and, in the case of the Third Appraiser, shall not have acted in any capacity for either Landlord or Tenant within five (5) years of his or her selection. The three appraisers or brokers shall determine the Extension Term RY1 Base Rent in accordance with the requirements and criteria set forth in this Section 4(b) above, employing the method commonly known as Baseball Arbitration,

whereby Landlord's Appraiser and Tenant's Appraiser each sets forth its determination of the Extension Term RY1 Base Rent as defined above, and the Third Appraiser must select one or the other (it being understood that the Third Appraiser shall be expressly prohibited from selecting a compromise figure). Landlord's Appraiser and Tenant's Appraiser shall deliver their determinations of the Extension Term RY1 Base Rent to the Third Appraiser within five (5) days of the appointment of the Third Appraiser and the Third Appraiser shall render his or her decision within ten (10) days after receipt of both of the other two determinations of the Extension Term RY1 Base Rent. The Third Appraiser's decision shall be binding on both Landlord and Tenant. Each party shall bear the cost of its own appraiser or broker and the cost of the Third Appraiser shall be paid by the party whose determination is not selected.

(d) Commencing on the first day of the second Rent Year of each Extension Term, Base Rent shall increase annually by three percent (3%), effective as of the first day of each Rent Year.

5. Allowance. As an inducement to Tenant's entering this Second Amendment, Landlord shall, subject to Sections 4(b) through 4(e) of the First Amendment and the last sentence of this Section 5, provide to Tenant a tenant improvement allowance equal to Four Hundred Fifty Five Thousand and Seventy Dollars ($455,070.00) (the "**Allowance**") to be used by Tenant after the commencement of the Extended Term, and if not otherwise utilized by Tenant pursuant to its Right of First Offer (as defined below) prior to commencement of the Extended Term, solely for costs incurred by Tenant for Alterations to the Premises performed in accordance with Article 11 of the Lease. Notwithstanding anything to the contrary, the Allowance shall not be applied to any of the following: (i) the cost of any of Tenant's Property including without limitation telecommunications and computer equipment and all associated wiring and cabling, any de-mountable decorations, artwork and partitions, signs, and trade fixtures, (ii) the cost of any fixtures or Alterations that will be removed at the end of the Term, or (iii) more than Forty Five Thousand Five Hundred and Seven Dollars ($45,507.00) of "soft costs" including architectural, engineering, design, and project management fees. For purposes of this Second Amendment and the Allowance being provided to Tenant hereunder, (y) the term "Allowance" as used in Sections 4(b) through 4(e) of the First Amendment shall mean the Allowance provided under this Section 5, and (z) the term "First Amendment" as used in Section 4(c) of the First Amendment shall be substituted with "Second Amendment". For purposes of clarity, Landlord and Tenant hereby acknowledge and agree that the Allowance set forth in this Section 5 shall be in addition to the Allowance set forth in Section 4 of the First Amendment.

6. Right of First Offer.

6.1 Grant of Option; Conditions. Tenant shall have a right of first offer (the "**Right of First Offer**") with respect to any space currently leased by 24M Technologies, Inc. at the Building (an "**Offering Space**"). Tenant's Right of First Offer shall be exercised as follows: if during the Term Landlord determines (in Landlord's sole judgment) that all or a portion of the Offering Space is available to lease to a third party other than 24M Technologies, Inc., its successors or assigns (hereafter the "Existing Tenant"), then Landlord shall advise Tenant (the

"**Advice**") of the economic and other terms and conditions under which Landlord is prepared to lease such portion of the Offering Space to Tenant, which terms shall reflect the fair market rental rate for such Offering Space as reasonably determined by Landlord. Tenant may lease such Offering Space in its entirety only, under such terms, by delivering written notice of exercise to Landlord (the "**Notice of Exercise**") within 10 business days after the date of the Advice. In any event, Tenant's delivery of a Notice of Exercise shall be deemed to be the irrevocable exercise by Tenant of its Right of First Offer subject to and in accordance with the provisions of this Section 6. Notwithstanding the foregoing, Tenant shall have no such Right of First Offer and Landlord need not provide Tenant with an Advice, if:

(a) There exists an Event of Default under the Lease at the time that Landlord would otherwise deliver the Advice; or

(b) as of the date on which the Offering Space is expected to be delivered to Tenant, there is not at least three (3) years remaining in the Term; or

(c) more than 25% of the Premises (in the aggregate) is sublet (other than pursuant to a Transfer to an Affiliated Entity or Successor under Section 13.7 of the Lease) at the time Landlord would otherwise deliver the Advice; or

(d) the Lease has been assigned (other than pursuant to a Transfer to an Affiliated Entity or Successor under Section 13.7 of the Lease) prior to the date Landlord would otherwise deliver the Advice; or

(e) the Existing Tenant is interested in extending or renewing its lease for such portion of the Offering Space or entering into a new lease for such portion of the Offering Space.

6.2 Terms for Offering Space.

(a) The term for the applicable portion of the Offering Space set forth in such Advice shall commence upon the commencement date stated in the Advice and shall end upon the Expiration Date as the same may be extended. Effective as of the commencement date stated in the Advice, such Offering Space shall be considered a part of the Premises, provided that all of the terms stated in the Advice shall govern Tenant's leasing such portion of the Offering Space and only to the extent that they do not conflict with the Advice, the terms and conditions of this Lease shall apply to such portion of the Offering Space.

(b) Tenant shall pay Base Rent and additional rent for the applicable portion of the Offering Space in accordance with the terms and conditions of the Advice, which terms and conditions shall reflect the fair market rental value of the Offering Space and such other terms and conditions, including a commercially reasonable tenant improvement allowance, all as determined in Landlord's reasonable judgment.

(c) The applicable portion of the Offering Space (including improvements and, so long as Landlord and Tenant have agreed upon same in writing, personal property, if any) shall be accepted by Tenant in its condition and as-built configuration existing on the earlier of the date Tenant takes possession of such portion of the Offering Space or as of the date the term for such portion of the Offering Space commences, unless the Advice specifies any work to be performed by Landlord in the applicable portion of the Offering Space, in which case Landlord shall perform such work in the applicable portion of the Offering Space. If Landlord is delayed delivering possession of the applicable portion of the Offering Space set forth in the Advice due to the holdover or unlawful possession of such space by any party, Landlord shall use diligent efforts to obtain possession of the space, and the commencement of the term for such applicable portion of the Offering Space shall be postponed until the date Landlord delivers possession of the applicable portion of the Offering Space to Tenant free from occupancy by any party.

(d) If Tenant exercises its Right of First Offer, and if Tenant has not yet utilized all of the Allowance prior to its exercise of the Right of First Offer, Tenant may apply the then-remaining balance of the Allowance to any portion of the Premises then-leased by Tenant. For purpose of clarification, if a Right of First Offer option is exercised, the Allowance may be applied to the Offering Space prior to the commencement of the Extended Term or after the commencement of the Extended Term, as the case may be.

6.3 Termination of Right of First Offer. The rights of Tenant hereunder with respect to each applicable portion of the Offering Space shall terminate on the earlier to occur of: (i) the Expiration Date or earlier termination of this Lease; (ii) Tenant's failure to exercise its Right of First Offer within the 10 business day period provided in Section 6.1 above with respect to the particular Offering Space which was offered to Tenant; and (iii) the date Landlord would have provided Tenant an Advice if Tenant had not been in violation of one or more of the conditions set forth in Section 6.1 above. If Tenant exercises its Right of First Offer, or loses its Right of First Offer as described above in this Section 6.3, with respect to an Offering Space, Tenant nonetheless shall continue to have a Right of First Offer on any other applicable portion of the Offering Space until the applicability of the earlier of items (i), (ii), or (iii) with respect to any applicable portion of the Offering Space. In addition, if Landlord provides Tenant with an Advice for any applicable portion of the Offering Space that contains expansion rights (whether such rights are described as an expansion option, right of first refusal, right of first offer or otherwise) with respect to any other portion of the Offering Space (such other portion of the Offering Space subject to such expansion rights is referred to herein as the "**Encumbered Offering Space**") and Tenant does not exercise its Right of First Offer to lease the portion of the Offering Space described in the Advice, Tenant's Right of First Offer with respect to the Encumbered Offering Space shall be subject and subordinate to all such expansion rights contained in the Advice. If Tenant was entitled to exercise its Right of First Offer, but failed to provide Landlord with a Notice of Exercise within the 10 business day period provided in Section 6.1 above, Tenant shall once again have the Right of First Offer if within a period of 6 months following the date of the Advice, Landlord proposes to lease the Offering Space to a prospect on terms that are substantially different than those set forth in the

Advice. For purposes hereof, the terms offered to a prospect shall be deemed to be substantially different than those set forth in the Advice if there is more than a 10% reduction in the "bottom line" cost per rentable square foot of the Offering Space to the prospect when compared with the "bottom line" cost per rentable square foot under the Advice, considering all of the economic terms of the both deals, respectively, including, without limitation, the net rent, any tax or expense escalation or other financial escalation and any financial concessions.

6.4 Offering Amendment. If Tenant exercises its Right of First Offer for a particular portion of the Offering Space, Landlord shall prepare an amendment (the "**Offering Amendment**") adding the applicable portion of the Offering Space to the Premises on the terms set forth in the Advice and reflecting the changes in the Base Rent, rentable square footage of the Premises, Tenant's Share and other appropriate terms. A copy of the Offering Amendment shall be (i) sent to Tenant within a reasonable time after Landlord's receipt of the Notice of Exercise executed by Tenant, (ii) revised by Landlord, if necessary, to incorporate any changes by Tenant that are necessary to accurately reflect the terms and conditions of Tenant's Right of First Offer; and (iii) executed and returned by Tenant to Landlord within 15 business days thereafter, but an otherwise valid exercise of the Right of First Offer shall be fully effective whether or not the Offering Amendment is executed.

6.5 Subordination. Notwithstanding anything herein to the contrary, Tenant's Right of First Offer is subject and subordinate to the expansion rights (whether such rights are designated as a right of first offer, right of first refusal, expansion option or otherwise) of the Existing Tenant.

6.6 Time of the Essence. Time is of the essence with respect to all time periods set forth in this Section 6.

6.7 Personal to Tenant. Notwithstanding anything herein to the contrary, Tenant's Right of First Offer is personal to Tenant and in no event shall such Right of First Offer be assignable (except in connection with a Transfer to an Affiliated Entity or Successor pursuant to Section 13.7 of the Lease).

7. Signage. Notwithstanding the terms and conditions of Section 12.3 (Exterior Signage) of the original Lease, Landlord hereby agrees that at such time as the Premises is expanded pursuant to the Right of First Offer set forth above or otherwise, if at all, the number of exterior signs which Tenant has the right to install and maintain shall be proportionally increased based on the size of the Premises, as expanded, in relation to the total rentable square feet of the Building and the total number of exterior signs allowable. At such time as the Premises comprises the entire rentable area of the Building, Tenant shall have the right to install and maintain all allowable exterior signage on the Building. All signage shall be subject to Landlord's approval in Landlord's sole and absolute discretion.

8. Parking. Notwithstanding the terms and conditions of Section 1.4(b) (Parking) of the original Lease, Landlord hereby agrees that at such time as the Premises is expanded pursuant to the Right of First Offer set forth above or otherwise, if at all, the number of parking spaces which Tenant has the right to use shall be proportionally increased based on the size of the Premises, as expanded, in relation to the total rentable square feet of the Building and the total number of parking spaces serving the Building. At such time as the Premises comprises the entire rentable area of the Building, Tenant shall have the exclusive right to use all parking spaces serving the Building.

9. Required Permits. Section 19.2 of the Lease is hereby deleted in its entirety and replaced with the following:

Tenant shall, at Tenant's sole cost and expense, apply for, seek and obtain all necessary state and local licenses, permits and approvals needed for the operation of Tenant's business (collectively, the "**Required Permits**"), including the Landlord Required License (as hereinafter defined). Tenant shall thereafter maintain all Required Permits. Tenant, at Tenant's expense, shall at all times comply with the terms and conditions of each such Required Permit. Tenant's foregoing obligations include, but are not limited to, obtaining, maintaining and complying with any license required by Legal Requirements for the storage of flammable materials. Landlord shall reasonably cooperate with Tenant, at Tenant's sole cost and expense, in connection with its application for Required Permits, which includes a right and obligation on the part of Landlord to attend and participate in public hearings or meetings with Governmental Authorities and/or abutting property owners and community groups, and, if necessary or appropriate, to communicate with public officials, abutters and community groups. Notwithstanding the foregoing, and to the extent any license from the Cambridge License Commission (or the Cambridge Fire Department, as the case may be) for the storage of flammable materials is required by Legal Requirements to be obtained by Landlord (a "**Landlord Required License**"), and if Landlord does not execute any application for the Landlord Required License that Tenant prepares for Landlord (which Tenant shall be responsible for filing) on the City of Cambridge's required form and that provides for flammable materials that are the same as the materials specified in Exhibit 6 attached to the original Lease (as revised from time to time pursuant to the terms of this Lease) and that are not in excess of the total gallons of flammable materials allowed by all then existing flammable materials permits issued and in effect with respect to the Property, Landlord agrees that in the event Landlord does not execute such application within thirty (30) days after Landlord's receipt of a written completed application from Tenant (or receipt of a written notice from the Cambridge License Commission or any other governmental authority having jurisdiction over the Building, as the case may be), Tenant may apply for, obtain and maintain such Landlord Required License on behalf of Landlord, and Landlord shall be responsible for paying for any application or maintenance fees therefor. In the event Tenant exercises its right to apply for, obtain and/or maintain such Landlord Required License, and, if pursuant to Legal Requirements, Tenant is required to be named as Landlord's agent and attorney-in-fact in connection with such application or maintenance of such Landlord Required License, then Landlord shall either execute such documentation reasonably requested by Tenant to appoint Tenant to act as Landlord's agent and attorney-in-fact in connection therewith or, Landlord, in its sole and absolute discretion, may elect to undertake to obtain and maintain the Landlord Required License. In the event Landlord fails to reasonably cooperate with Tenant or to execute such documentation reasonably requested by Tenant to appoint Tenant to act as Landlord's agent and attorney-in-fact, as required by this Section 19.2, to the extent required by

Legal Requirements, or, if Landlord opts not to execute such documents, Landlord fails to undertake to obtain the Landlord Required License, within thirty (30) days of Landlord's receipt of written notice of such failure from Tenant, and as a direct result of such failure Tenant is prevented or prohibited from legally storing and/or using flammable and combustible materials in the Premises, Tenant's obligation to pay Rent shall abate for the period commencing on the thirty-first (31st) day following Landlord's receipt of such written notice of Landlord's failure and ending on the day that Landlord has remedied such failure. Within ten (10) business days of a request by Landlord, which request shall be made not more than once during each period of twelve (12) calendar months during the Term hereof unless otherwise requested by an Mortgagee or unless Landlord reasonably suspects that Tenant has violated the provisions of this Section 19.2, Tenant shall furnish Landlord with copies of all Required Permits together with a certificate certifying that such permits are all of the permits that Tenant has obtained with respect to the Premises. If Landlord, in its reasonable discretion, determines that Tenant is not adequately or diligently prosecuting the Landlord Required License, then Landlord, upon prior notice to Tenant, may elect to undertake to obtain and maintain the Landlord Required License at Tenant's sole cost.

If the City of Cambridge or any other Governmental Authority has provided Landlord or Tenant with written notice that a Landlord Required License is required for the Property and the Landlord Required License has not been issued for the Property within one hundred twenty (120) days of the date of Landlord or Tenant's receipt of such written notice (the "**Landlord Required License Issuance Date**"), and as a direct result thereof Tenant is prevented or prohibited from legally storing and/or using flammable and combustible materials in the Premises, provided that Tenant has timely submitted a completed application for the Landlord Required License, Tenant's currently existing flammable storage permit remains in effect, and Tenant is not in default under this Lease beyond any applicable notice or cure period, Tenant's Rent obligations under the Lease shall abate one (1) day for each day that occurs after the Landlord Required License Issuance Date until the date the Landlord Required License is issued (the "**Landlord Required License Abatement Period**"); provided, however, if Tenant fails to submit a completed application for the Landlord Required License to all required governmental authorities on or prior to the thirtieth (30th) day following Tenant's receipt of written notice that a Landlord Required License is required for the Property (the "**Landlord Required License Application Date**"), then the Landlord Required License Abatement Period shall be reduced one (1) day for each day that occurs between the Landlord Required License Application Date and the date Tenant submits such completed application for the Landlord Required License. Notwithstanding the immediately foregoing sentence, if Tenant occupies the Premises after the Landlord Required Issuance Date, and Tenant has otherwise complied with the terms and provisions of this paragraph, there shall be no abatement of Tenant's Rent obligation hereunder, however, if Tenant is using the Premises solely for office use, the Base Rent payable under the Lease shall be abated by fifty percent (50%) until such time as the Landlord Required License is obtained.

10. Miscellaneous.

(a) In all respects, the Lease, as hereby amended and modified, is hereby ratified, approved and confirmed. In the event of any conflict between the terms, covenants and conditions contained in this Second Amendment and the terms, covenants and conditions contained in the Lease, the terms, covenants and conditions contained in this Second Amendment shall supersede.

(b) This Second Amendment is made pursuant to, and shall be governed by, and construed in accordance with, the laws of the Commonwealth of Massachusetts without regard to the laws governing conflicts of laws.

(c) The Lease, as amended hereby, contains the entire agreement between Landlord and Tenant respecting the subject matter hereof and shall not be amended, modified or supplemented unless by agreement in writing signed by both Landlord and Tenant. The terms of this Second Amendment shall bind and inure to the benefit of Landlord and Tenant and their respective successors and assigns.

(d) Except where the context provides otherwise, the term "**Lease**" as used in this Second Amendment shall mean the Lease as amended by this Second Amendment.

(e) No waiver of a breach of any provision of this Second Amendment shall constitute a waiver of any preceding or succeeding breach of the same or any other provision hereof.

(f) The undersigned individual(s) executing this Second Amendment on behalf of Tenant do hereby represent and warrant to Landlord that they are each fully empowered and authorized to execute this Second Amendment on behalf of Tenant.

(g) This Second Amendment may be executed in multiple counterparts, each of which shall constitute an original hereof, but all of which, when taken together, shall constitute but one and the same document. Delivery by a party hereto of a facsimile or portable document format (.pdf) of this Second Amendment executed by such party shall constitute delivery by such party of an original hereof.

11. Brokers. Landlord and Tenant each warrants and represents that it has dealt with no broker other than Newmark Knight Frank (the "Broker") in connection with this Second Amendment. Landlord and Tenant each agrees to defend, indemnify and save the other harmless from and against any Claims arising as a result of its breach of the foregoing representation and warranty. Landlord shall be solely responsible for paying the Broker its commission or fee in connection with this Second Amendment, including without limitation any expansions to the Premises contemplated by this Second Amendment.

[Signatures on the Following Page(s)]

IN WITNESS WHEREOF, the parties hereto have executed this Second Amendment as of the day and year first above written.

LANDLORD:

MIT 130 BROOKLINE LEASEHOLD LLC

By: MIT Cambridge Real Estate LLC, its manager

By: /s/ Seth D. Alexander
Name: Seth D. Alexander
Title: President and not individually

TENANT:

INTELLIA THERAPEUTICS, INC.

By: /s/Glenn Goddard
Name: Glenn Goddard
Its: Executive Vice President and Chief Financial Officer

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO RULE 13a-14(a) / RULE 15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, John M. Leonard, M.D., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Intellia Therapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 7, 2020

/s/ John M. Leonard
John M. Leonard, M.D.
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO RULE 13a-14(a) / RULE 15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, Glenn Goddard, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Intellia Therapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: May 7, 2020

/s/ Glenn Goddard

Glenn Goddard
Executive Vice President, Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

CERTIFICATIONS OF CEO AND CFO PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with this Quarterly Report on Form 10-Q of Intellia Therapeutics, Inc. (the "Company") for the period ended March 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned, John M. Leonard, M.D., President and Chief Executive Officer (Principal Executive Officer) of the Company, and Glenn Goddard, Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer) of the Company, hereby certifies, pursuant to 18 U.S.C. (section) 1350, as adopted pursuant to (section) 906 of the Sarbanes-Oxley Act of 2002, that to the best of his knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: May 7, 2020

/s/ John M. Leonard
John M. Leonard, M.D.
President and Chief Executive Officer
(Principal Executive Officer)

/s/ Glenn Goddard
Glenn Goddard
Executive Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)