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

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2018

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 001-37553

REGENXBIO Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**47-1851754**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
9600 Blackwell Road, Suite 210 Rockville, MD	**20850**
(Address of principal executive offices)	**(Zip Code)**

(240) 552-8181
(Registrant's telephone number, including area code)

Not Applicable
(Former name, former address and former fiscal year, if changed since last report)

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 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, a smaller reporting company, or an emerging growth company. See the 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 Exchange Act). Yes ☐ No ☒

As of November 2, 2018, there were 35,840,359 outstanding shares of the registrant's common stock, par value $0.0001 per share.

REGENXBIO INC.
QUARTERLY REPORT ON FORM 10-Q
FOR THE QUARTERLY PERIOD ENDED SEPTEMBER 30, 2018

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INFORMATION REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act). These statements express a belief, expectation or intention and are generally accompanied by words that convey projected future events or outcomes such as "believe," "may," "will," "estimate," "continue," "anticipate," "design," "intend," "expect," "could," "plan," "potential," "predict," "seek," "should," "would" or by variations of such words or by similar expressions. We have based these forward-looking statements on our current expectations and assumptions and analyses made by us in light of our experience and our perception of historical trends, current conditions and expected future developments, as well as other factors we believe are appropriate under the circumstances. However, whether actual results and developments will conform with our expectations and predictions is subject to a number of risks, uncertainties, assumptions and other important factors, including, but not limited to:

- the timing of enrollment, commencement and completion and the success of clinical trials conducted by us, our licensees and our partners;
- the timing of commencement and completion and the success of preclinical studies conducted by us and our development partners;
- the timely development and launch of new products;
- the ability to obtain and maintain regulatory approval of our product candidates, and the labeling for any approved products;
- the scope, progress, expansion and costs of developing and commercializing our product candidates;
- our ability to obtain and maintain intellectual property protection for our product candidates and technology;
- our anticipated growth strategies;
- our expectations regarding competition;
- the anticipated trends and challenges in our business and the market in which we operate;
- our ability to attract or retain key personnel;
- the size and growth of the potential markets for our product candidates and the ability to serve those markets;
- the rate and degree of market acceptance of any of our product candidates;
- our ability to establish and maintain development partnerships;
- our expectations regarding our expenses and revenue;
- our expectations regarding regulatory developments in the United States and foreign countries; and
- the use or sufficiency of our cash and cash equivalents and needs for additional financing.

You should carefully read the factors discussed in the sections titled "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and elsewhere in this Quarterly Report on Form 10-Q, our Annual Report on Form 10-K for the year ended December 31, 2017 and in our other filings with the U.S. Securities and Exchange Commission (the SEC) for additional discussion of the risks, uncertainties, assumptions and other important factors that could cause our actual results or developments to differ materially and adversely from those projected in the forward-looking statements. The actual results or developments anticipated may not be realized or, even if substantially realized, they may not have the expected consequences to or effects on us or our businesses or operations. Such statements are not guarantees of future performance and actual results or developments may differ materially and adversely from those projected in the forward-looking statements. These forward-looking statements speak only as of the date of this report. Except as required by law and the rules of the SEC, we do not undertake any obligation, and specifically decline any obligation, to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Available Information

We file annual, quarterly, and current reports, proxy statements, and other documents with the SEC under the Exchange Act. You may obtain any reports, proxy and information statements, and other information that we file electronically with the SEC at www.sec.gov.

You also may view and download copies of our SEC filings free of charge at our website, www.regenxbio.com. The information contained on, or that can be accessed through, our website will not be deemed to be incorporated by reference in, and is not considered part of, this Quarterly Report on Form 10-Q. Investors should also note that we use our website, as well as SEC filings, press releases, public conference calls and webcasts, to announce financial information and other material developments regarding our business. We use these channels, as well as any social media channels listed on our website, to communicate with investors and members of the public about our business. It is possible that the information that we post on our social media channels could be deemed material information. Therefore, we encourage investors, the media and others interested in our company to review the information that we post on our social media channels.

As used in this Quarterly Report on Form 10-Q, the terms “REGENXBIO,” “we,” “us,” “our” or the “Company” mean REGENXBIO Inc. and its subsidiaries, on a consolidated basis, unless the context indicates otherwise.

NAV, REGENXBIO and the REGENXBIO logos are our registered trademarks. Any other trademarks appearing in this Quarterly Report on Form 10-Q are the property of their respective holders.

PART I – FINANCIAL INFORMATION

Item 1. Financial Statements.

REGENXBIO INC.
CONSOLIDATED BALANCE SHEETS
(unaudited)
(in thousands, except per share data)

	September 30, 2018	December 31, 2017
Assets		
Current assets		
Cash and cash equivalents	$ 142,423	$ 46,656
Marketable securities	230,166	114,122
Accounts receivable	2,626	473
Prepaid expenses	6,308	5,334
Other current assets	4,834	1,412
Total current assets	386,357	167,997
Marketable securities	102,296	15,616
Accounts receivable	4,600	—
Property and equipment, net	19,856	13,977
Restricted cash	225	225
Other assets	1,650	862
Total assets	$ 514,984	$ 198,677
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ 5,214	$ 4,832
Accrued expenses and other current liabilities	13,306	9,605
Deferred revenue	600	—
Total current liabilities	19,120	14,437
Deferred rent, net of current portion	1,116	1,211
Other liabilities	691	—
Total liabilities	20,927	15,648
Commitments and contingencies (Note 6)		
Stockholders' equity		
Preferred stock; $0.0001 par value; 10,000 shares authorized, and no shares issued and outstanding at September 30, 2018 and December 31, 2017	—	—
Common stock; $0.0001 par value; 100,000 shares authorized at September 30, 2018 and December 31, 2017; 35,704 and 31,295 shares issued and outstanding at September 30, 2018 and December 31, 2017, respectively	4	3
Additional paid-in capital	582,249	371,497
Accumulated other comprehensive loss	(874)	(715)
Accumulated deficit	(87,322)	(187,756)
Total stockholders' equity	494,057	183,029
Total liabilities and stockholders' equity	$ 514,984	$ 198,677

The accompanying notes are an integral part of these unaudited consolidated financial statements.

REGENXBIO INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME (LOSS)
(unaudited)
(in thousands, except per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Revenues				
License revenue	$ 5,306	$ 1,335	$ 177,728	$ 8,345
Other revenues	—	1	—	8
Total revenues	5,306	1,336	177,728	8,353
Expenses				
Costs of revenues				
Licensing costs	517	683	6,797	2,085
Other	—	—	—	6
Research and development	18,508	12,518	59,544	43,054
General and administrative	9,008	9,444	25,706	22,421
Other operating expenses (income)	(2)	—	31	74
Total operating expenses	28,031	22,645	92,078	67,640
Income (loss) from operations	(22,725)	(21,309)	85,650	(59,287)
Other Income				
Interest income from licensing	109	—	8,362	—
Investment income	2,122	603	4,177	2,115
Total other income	2,231	603	12,539	2,115
Income (loss) before income taxes	(20,494)	(20,706)	98,189	(57,172)
Income Tax Benefit (Expense)	1,292	—	(2,558)	—
Net income (loss)	$ (19,202)	$ (20,706)	$ 95,631	$ (57,172)
Other Comprehensive Income (Loss)				
Unrealized gain (loss) on available-for-sale securities, net of reclassifications and income tax expense	(103)	93	(159)	(521)
Total other comprehensive income (loss)	(103)	93	(159)	(521)
Comprehensive income (loss)	$ (19,305)	$ (20,613)	$ 95,472	$ (57,693)
Net income (loss) applicable to common stockholders	$ (19,202)	$ (20,706)	$ 95,631	$ (57,172)
Net income (loss) per share:				
Basic	$ (0.56)	$ (0.67)	$ 2.94	$ (1.94)
Diluted	$ (0.56)	$ (0.67)	$ 2.67	$ (1.94)
Weighted-average common shares outstanding:				
Basic	33,988	30,940	32,576	29,440
Diluted	33,988	30,940	35,875	29,440

The accompanying notes are an integral part of these unaudited consolidated financial statements.

REGENXBIO INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)
(in thousands)

	Nine Months Ended September 30,	
	2018	2017
Cash flows from operating activities		
Net income (loss)	$ 95,631	$ (57,172)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities		
Stock-based compensation expense	11,755	7,809
Net amortization of premiums and accretion of discounts on marketable debt securities	889	1,410
Depreciation and amortization	2,671	1,963
Net realized losses (gains) on sales of marketable securities	15	(479)
Imputed interest income from licensing	(8,362)	—
Non-cash consideration received for licenses granted	—	(420)
Other non-cash adjustments	12	39
Changes in operating assets and liabilities		
Accounts receivable	6,986	150
Prepaid expenses	(974)	(1,450)
Other current assets	(3,072)	(380)
Other assets	(788)	(109)
Accounts payable	156	1,142
Accrued expenses and other current liabilities	3,438	3,449
Deferred revenue	600	—
Deferred rent	(41)	(118)
Other liabilities	(128)	—
Net cash provided by (used in) operating activities	108,788	(44,166)
Cash flows from investing activities		
Purchases of marketable securities	(319,897)	(46,593)
Maturities of marketable securities	116,110	47,225
Sales of marketable securities	—	780
Purchases of property and equipment	(8,389)	(5,059)
Net cash used in investing activities	(212,176)	(3,647)
Cash flows from financing activities		
Proceeds from exercise of stock options	9,051	752
Proceeds from issuance of common stock under employee stock purchase plan	850	556
Proceeds from public offering of common stock, net of underwriting discounts and commissions	189,716	81,994
Issuance costs for public offering of common stock	(462)	(445)
Net cash provided by financing activities	199,155	82,857
Net increase in cash and cash equivalents and restricted cash	95,767	35,044
Cash and cash equivalents and restricted cash		
Beginning of period	46,881	25,065
End of period	$ 142,648	$ 60,109
Supplemental disclosures of non-cash investing and financing activities		
Purchases of property and equipment in accounts payable and accrued expenses	$ 174	$ —
Non-cash consideration received for licenses granted	$ —	$ 420
Issuance costs for public offering of common stock in accounts payable and accrued expenses	$ 157	$ —

The accompanying notes are an integral part of these unaudited consolidated financial statements.

REGENXBIO INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(unaudited)

1. Nature of Business

REGENXBIO Inc. (the Company) is a leading clinical-stage biotechnology company seeking to improve lives through the curative potential of gene therapy. The Company's proprietary adeno-associated virus (AAV) gene delivery platform (NAV Technology Platform) consists of exclusive rights to over 100 novel AAV vectors, including AAV7, AAV8, AAV9 and AAVrh10. The Company's NAV® Technology Platform is being applied by the Company, as well as by third-party licensees (NAV Technology Licensees), in the development of product candidates for a variety of diseases with unmet needs. The Company was formed in 2008 in the State of Delaware and is headquartered in Rockville, Maryland.

Liquidity and Risks

In August 2018, the Company completed a follow-on public offering of 3,105,000 shares of its common stock (inclusive of 405,000 shares pursuant to the full exercise by the underwriters of their option to purchase additional shares) at a price of $65.00 per share. The aggregate net proceeds received by the Company from the offering, inclusive of the underwriters' option exercise, were $189.1 million, net of underwriting discounts and commissions and offering expenses payable by the Company.

As of September 30, 2018, the Company had generated an accumulated deficit of $87.3 million since inception. As the Company has incurred cumulative losses since inception, transition to recurring profitability is dependent upon the successful development, approval and commercialization of its product candidates and achieving a level of revenues adequate to support the Company's cost structure. The Company may never achieve recurring profitability, and unless and until it does, the Company will continue to need to raise additional capital. As of September 30, 2018, the Company had cash, cash equivalents and marketable securities of $474.9 million, which management believes is sufficient to fund operations for at least the next 12 months from the date these consolidated financial statements were issued.

The Company is subject to risks common to companies in the biotechnology industry, including, but not limited to, development by the Company or its competitors of technological innovations, risks of failure of clinical trials, dependence on key personnel, protection of proprietary technology, compliance with government regulations and ability to transition from clinical manufacturing to the commercial production of products.

2. Summary of Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The accompanying consolidated financial statements are unaudited and have been prepared in conformity with accounting principles generally accepted in the United States of America (GAAP). Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification (ASC) and Accounting Standards Update (ASU) of the Financial Accounting Standards Board (FASB). The interim unaudited consolidated financial statements have been prepared on the same basis as the annual audited consolidated financial statements as of and for the year ended December 31, 2017 included in the Company's Annual Report on Form 10-K for the year ended December 31, 2017, which was filed with the SEC on March 6, 2018. Certain information and footnote disclosures required by GAAP which are normally included in the Company's annual consolidated financial statements have been omitted pursuant to SEC rules and regulations for interim reporting. In the opinion of management, the accompanying consolidated financial statements reflect all adjustments, which include all normal and recurring adjustments necessary for the fair statement of the Company's financial position as of September 30, 2018, and the results of its operations and its cash flows for the interim periods ended September 30, 2018 and 2017.

The results of operations for the interim periods are not necessarily indicative of the results of operations to be expected for the full year, any other interim periods, or any future year or period. These interim consolidated financial statements should be read in conjunction with the audited consolidated financial statements as of and for the year ended December 31, 2017, and the notes thereto, which are included in the Company's Annual Report on Form 10-K.

The accompanying consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts in the financial statements and accompanying notes. Actual results could differ materially from those estimates. Management considers many factors in selecting appropriate financial accounting policies and controls, and in developing the estimates and assumptions that are used in the preparation of these consolidated financial statements. Management must apply significant judgment in this process. In addition, other factors may affect estimates, including: expected business and operational changes, sensitivity and volatility associated with the assumptions used in developing estimates and whether historical trends are expected to be representative of future trends. The estimation process often may yield a range of potentially reasonable estimates of the ultimate future outcomes and management must select an amount that falls within that range of reasonable estimates. This process may result in actual results differing materially from those estimated amounts used in the preparation of the consolidated financial statements. Estimates are used in the following areas, among others: revenue, stock-based compensation expense, accrued research and development expenses and other accrued expenses, income taxes and the fair value of financial instruments.

Accounts Receivable

Accounts receivable primarily consist of consideration due to the Company resulting from its license agreements with NAV Technology Licensees. Accounts receivable include amounts invoiced to licensees as well as rights to consideration which have not yet been invoiced to licensees and for which payment is conditional solely upon the passage of time. If a licensee elects to terminate a license prior to the end of the license term, the licensed intellectual property is returned to the Company and any accounts receivable from the licensee which are not contractually payable to the Company are charged off as a reduction of license revenue in the period of the termination. Accounts receivable from licensees which are not expected to be received by the Company within 12 months from the reporting date are stated net of a discount to present value and recorded as non-current assets on the consolidated balance sheets.

Receivables are stated net of an allowance for doubtful accounts, if deemed necessary based on the Company's evaluation of collectability using specific identification of account balances, the credit profile of its customers and historical information regarding write-offs. Account balances are charged off against the allowance when the potential for recovery is considered remote. The Company did not record an allowance for doubtful accounts as of September 30, 2018 or December 31, 2017.

Non-marketable Equity Securities

The Company's non-marketable equity securities do not have readily determinable fair values and consist of equity investments in other entities in which the Company's ownership interest is below 20% and the Company does not have significant influence over the operations of the entity. Prior to January 1, 2018, non-marketable equity securities were accounted for using the cost method and measured at cost less impairment. Beginning January 1, 2018, upon the Company's adoption of ASU 2016-01, *Financial Instruments—Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*, non-marketable equity securities are measured at cost less impairment, adjusted for observable price changes for identical or similar investments of the same issuer. Please refer to Note 4 for further information on non-marketable equity securities.

Fair Value of Financial Instruments

The Company is required to disclose information on all assets and liabilities reported at fair value that enables an assessment of the inputs used in determining the reported fair values. FASB ASC Topic 820, *Fair Value Measurements and Disclosures* (ASC 820), establishes a hierarchy of inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing the asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the inputs that market participants would use in pricing the asset or liability, and are developed based on the best information available in the circumstances. The fair value hierarchy applies only to the valuation inputs used in determining the reported fair value of the investments and is not a measure of the investment credit quality. The three levels of the fair value hierarchy are described below:

- Level 1—Valuations based on unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date.
- Level 2—Valuations based on quoted prices for similar assets or liabilities in markets that are not active or for which all significant inputs are observable, either directly or indirectly.
- Level 3—Valuations that require inputs that reflect the Company's own assumptions that are both significant to the fair value measurement and unobservable.

To the extent that valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized in Level 3. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. The fair values of the Company's Level 2 instruments are based on quoted market prices or broker or dealer quotations for similar assets. These investments are initially valued at the transaction price and subsequently valued utilizing third party pricing providers or other market observable data. Please refer to Note 4 for further information on the fair value measurement of the Company's financial instruments.

Revenue Recognition

Effective January 1, 2018, the Company adopted ASU 2014-09, *Revenue from Contracts with Customers* (Topic 606), which supersedes the revenue recognition requirements in ASC 605, *Revenue Recognition* (Topic 605). Please refer to Recent Accounting Pronouncements below for additional information on the adoption of Topic 606 and the impact upon adoption to the Company's financial position and results of operations.

Topic 606 requires entities to recognize revenue when control of the promised goods or services is transferred to customers at an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. The following five steps are performed to determine the appropriate revenue recognition for arrangements within the scope of Topic 606: (i) identify the contract(s) with a customer, (ii) identify the performance obligations in the contract, (iii) determine the transaction price, (iv) allocate the transaction price to the performance obligations in the contract and (v) recognize revenue when (or as) the entity satisfies the performance obligations.

The Company applies the five-step model to contracts that are within the scope of Topic 606 only when it is probable that the Company will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, for contracts within the scope of Topic 606, the Company assesses the goods or services promised within each contract and determined those that are performance obligations and whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to respective performance obligations when (or as) the respective performance obligations are satisfied.

The Company evaluates its contracts for the presence of significant financing components. If a significant financing component is identified in a contract and provides a financing benefit to the customer, the transaction price for the contract is adjusted to account for the financing portion of the arrangement, which is recognized as interest income over the financing term using the effective interest method. In determining the appropriate interest rates for significant financing components, the Company evaluates the credit profile of the customer and prevailing market interest rates and selects an interest rate in which it believes would be charged to the customer in a separate financing arrangement over a similar financing term.

License revenue

The Company licenses its NAV Technology Platform to other biotechnology and pharmaceutical companies. The terms of the licenses vary, and licenses may be exclusive or non-exclusive and may be sublicensable by the licensee. Licenses may grant intellectual property rights for purposes of internal and preclinical research and development only, or may include the rights, or options to obtain future rights, to commercialize drug therapies for specific diseases using the Company's NAV Technology Platform. License agreements generally have a term at least equal to the life of the underlying patents, but are terminable at the option of the licensee. Consideration to the Company under its license agreements may include: (i) up-front fees, (ii) option fees to obtain additional licenses, (iii) annual maintenance fees, (iv) milestone payments based on the achievement of certain development and sales-based milestones by licensees, (v) sublicense fees and (vi) royalties on sales of licensed products.

The Company has determined that all of its license agreements are contracts with customers within the scope of Topic 606. Although licenses are terminable at the option of licensee, the Company has determined that there is a substantive termination penalty associated with the termination of each license. Due to the substantive termination penalty, the contract term for purposes of applying Topic 606 is equal to the stated term of the license agreement, which is the life of the underlying licensed patents. The Company's performance obligations under its license agreements include the delivery of intellectual property licenses to licensees as well as options granted to licensees to acquire future licenses to the extent the options represent material rights to the licensee. The transaction price for each license agreement is allocated to these performance obligations and recognized as revenue when the performance obligations are satisfied. Consideration allocated to performance obligations for the delivery of intellectual property licenses is recognized as revenue upon the delivery of the license(s) to the licensee, which generally occurs upon the execution of the license agreement. Consideration allocated to performance obligations for license options is recognized as revenue upon the earlier of the option exercise or expiration.

For license agreements which contain options for the licensee to purchase additional licenses in the future, the Company evaluates the options at the inception of the agreement to determine if they provide a material right to the licensee. In making this determination, the Company considers whether the optional licenses are priced at a discount to the standalone selling price for the licenses. For options granted which are deemed to be material rights to the licensee, the Company allocates a portion of the transaction price to the performance obligation for the option and recognizes that consideration as revenue at the earlier of option exercise or expiration. Options which are not material rights to licensees are not considered performance obligations and are not accounted for as part of the license agreement until exercised by the licensee. Consideration contingent upon the exercise of options by licensees is excluded from the transaction price and not accounted for as part of the license agreement until the option is exercised. Upon the exercise of an option by a licensee, the additional consideration related to the option exercise is added to the transaction price and recognized as revenue upon the delivery of the newly purchased license.

The Company evaluates the transaction price for its license agreements at each reporting date. The transaction price for each license includes all fixed consideration, as well as variable consideration to the extent that it is probable that a significant reversal of revenue will not occur in the future. Fixed consideration under the Company's license agreements includes up-front fees and annual maintenance fees. Variable consideration under the Company's license agreements includes development and sales-based milestone payments, sublicense fees and royalties on sales of licensed products.

Up-front license fees are included in the transaction price and recognized as revenue upon the delivery of the license. If up-front license fees are payable to Company in periods beyond 12 months from the delivery of the license, a significant financing component is deemed to exist and the Company adjusts the transaction price to include only the present value of the license fees. The discounted portion of the license fees is recognized as interest income in the consolidated statements of operations over the term of the financing period.

Annual maintenance fees are generally payable to the Company on each anniversary date over the term of the license agreement. The Company has determined that the payment of annual maintenance fees by licensees in future periods represents a significant financing component to the license since the delivery of the license occurs at the inception of the agreement. The present value of aggregate annual maintenance fees payable to the Company over the term of the license is included in the transaction price and recognized as revenue upon the delivery of the license. The discounted portion of the annual maintenance fees is recognized as interest income in the consolidated statements of operations over the term of the license.

Development milestone payments are payable to the Company upon the achievement of specified development milestones by licensees. At the inception of each license agreement that contains development milestone payments, the Company evaluates whether the milestones are considered probable of achievement and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal will not occur in the future, milestone payments are included in the transaction price and recognized as revenue upon the delivery of the license. Milestone payments contingent on the achievement of development milestones that are not within the control of the Company or the licensee, such as regulatory approvals, are not considered probable of being achieved and are excluded from the transaction price until the milestone is achieved. At each reporting date, the Company re-evaluates the probability of achievement of outstanding development milestones and, if necessary, adjusts the transaction price for any milestones for which the probability of achievement has changed due to current facts and circumstances. Any such adjustments are recorded on a cumulative catch-up basis and recorded as license revenue in the period of the adjustment.

Royalties on sales of licensed products, sales-based milestone payments and sublicense fees based on the receipt of certain fees by licensees from any sublicensees are excluded from the transaction price for each license and recognized as revenue in the period that the related sales or sublicenses occur, provided that the associated license has been delivered to the licensee. To date the Company has not recognized any revenue from royalties on sales of licensed products, the achievement of sales-based milestones or sublicense fees.

The Company receives payments from licensees based on the billing schedules established in each license agreement. Amounts recognized as revenue which have not yet been received from licensees are recorded as accounts receivable when the Company's rights to the consideration are conditional solely upon the passage of time. Amounts recognized as revenue which have not yet been received from licensees are recorded as contract assets when the Company's rights to the consideration are not unconditional. Contract assets are recorded as other current assets on the consolidated balance sheets. If a licensee elects to terminate a license prior to the end of the license term, the licensed intellectual property is returned to the Company and any consideration recorded as accounts receivable or contract assets which is not contractually payable by the licensee is charged off as a reduction of license revenue in the period of the termination. Amounts received by the Company prior to the delivery of underlying performance obligations are deferred and recognized as revenue upon the satisfaction of the performance obligations by the Company.

Costs of Revenues

Licensing costs consist of sublicense fees incurred by the Company to its licensors as a result of license revenues generated by the Company. Sublicense fees are based on a percentage of license fees received by the Company from licensees as specified in the Company's agreements with its licensors. The Company recognizes sublicense fees in the period that the underlying license revenue is recognized. Sublicense fees payable by the Company to licensors in periods beyond 12 months from the reporting are recorded as non-current liabilities on the consolidated balance sheets.

Stock-based Compensation

The Company accounts for its stock-based compensation awards in accordance with FASB ASC 718, *Compensation—Stock Compensation* (ASC 718). ASC 718 requires all stock-based payments to employees and nonemployees, including stock options and restricted stock units, to be recognized in the consolidated statement of operations and comprehensive loss based on their fair values.

The Company's stock-based awards are subject to either service or performance-based vesting conditions. Compensation expense related to awards to employees and nonemployees with service-based vesting conditions is recognized on a straight-line basis based on the estimated grant date fair value over the associate service period of the award, which is generally the vesting term. Compensation expense related to awards to employees and nonemployees with performance-based vesting conditions is recognized based on the estimated grant date fair value over the requisite service period using the accelerated attribution method to the extent achievement of the performance condition is probable.

The Company estimates the fair value of its stock option awards to employees and nonemployees using the Black-Scholes option-pricing model, which requires the input of subjective assumptions, including (i) the fair value of the underlying common stock, (ii) the expected stock price volatility, (iii) the expected term of the award, (iv) the risk-free interest rate and (v) expected dividends. Due to the lack of Company-specific historical and implied volatility data of its common stock, the Company has based its estimate of expected volatility on its own historical volatility as well as the historical volatility of a group of similar companies that are publicly traded. Due to the lack of historical trading data for its common stock, the Company places a higher weight on the historical volatility of the selected peer group in estimating historical volatility. When selecting these public companies on which it has based its expected stock price volatility, the Company selects companies with comparable characteristics to it, including enterprise value, risk profiles and position within the industry and with historical share price information sufficient to meet the expected term of the Company's stock-based awards. The Company computes historical volatility data using the daily closing prices for the selected companies' shares during the equivalent period of the calculated expected term of the stock-based awards. The Company will continue to apply this method of estimating expected volatility until a sufficient amount of historical information regarding the volatility of its own common stock price becomes available. The Company estimates the expected term of its employee stock options using the "simplified" method, whereby, the expected term equals the arithmetic average of the vesting term and the original contractual term of the option due to its lack of sufficient historical data. For stock options granted to nonemployees, the Company uses the contractual term of the award rather than expected term to estimate the fair value of the award. The Company estimates the risk-free interest rates for periods within the expected term of its options based on the rates of U.S. Treasury securities with maturity dates commensurate with the expected term of the associated awards. The Company has never paid and does not expect to pay dividends in the foreseeable future.

The Company estimates the fair value of restricted stock units based on the fair value of the Company's common stock on the date of the grant.

On July 1, 2018, the Company adopted ASU 2018-07, *Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-based Payment Accounting*. Prior to the adoption of this standard, compensation expense for the Company's stock-based awards to nonemployees was based on the then-current fair value of the awards at each reporting date prior to the measurement date, which is generally the vesting date. Upon the adoption of ASU 2018-07, these awards will no longer be remeasured and any new stock-based awards granted to nonemployees after the adoption of the new standard will be measured at the estimated grant date fair value of the awards.

Net Income (Loss) Per Share

Basic net income (loss) per share is calculated by dividing net income (loss) applicable to common stockholders by the weighted-average common shares outstanding during the period, without consideration for common stock equivalents. Diluted net income (loss) per share is calculated by adjusting the weighted-average common shares outstanding for the dilutive effect of common stock equivalents outstanding for the period, determined using the treasury-stock method. Contingently convertible shares in which conversion is based on non-market-priced contingencies are excluded from the calculations of both basic and diluted net income (loss) per share until the contingency has been fully met. For purposes of the diluted net income (loss) per share calculation, common stock equivalents are excluded from the calculation of diluted net income (loss) per share if their effect would be anti-dilutive.

Recent Accounting Pronouncements

Adoption of ASU 2014-09, Revenue from Contracts with Customers

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers* (Topic 606), which supersedes the revenue recognition requirements in ASC 605, *Revenue Recognition* (Topic 605). Effective January 1, 2018, the Company adopted Topic 606 using the modified retrospective transition method. Under this method, the Company applied Topic 606 to all contracts with customers which were not completed as of January 1, 2018 and recorded the cumulative impact of the adoption as an adjustment to its accumulated deficit on January 1, 2018. The Company's financial results for periods ending after January 1, 2018 are presented in accordance with the requirements of Topic 606, while prior period amounts have not been adjusted and continue to be reported in accordance with Topic 605. Please refer to Revenue Recognition above for additional information on Topic 606, including a description of the Company's revenue recognition policies upon adoption.

The Company recorded a net reduction in opening accumulated deficit of $4.8 million as of January 1, 2018 for the cumulative impact of adoption of Topic 606, which was primarily the result of accelerated recognition of license revenue due to annual maintenance fees under Topic 606. Under Topic 605, annual maintenance fees payable to the Company by licensees were recognized as license revenue annually when the amounts became fixed or determinable. Under Topic 606, the present value of aggregate annual maintenance fees over the term of the license agreement are recognized as revenue upon the delivery of the license to the licensee. The impact of the accelerated recognition of license revenue upon adoption was partially offset by the accelerated recognition of licensing costs to the Company's licensors. The Company recognizes sublicense fees to its licensors in the period the underlying license revenue is recognized.

The cumulative adjustment for the adoption of Topic 606 had the following effects on the Company's consolidated balance sheet as of January 1, 2018 (in thousands):

	Balance at December 31, 2017	Cumulative Adjustment for Adoption of Topic 606	Balance at January 1, 2018
Consolidated Balance Sheet			
Assets:			
Accounts receivable, current	$ 473	$ 527	$ 1,000
Accounts receivable, non-current	$ —	$ 4,850	$ 4,850
Other current assets	$ 1,412	$ 350	$ 1,762
Liabilities:			
Accrued expenses and other current liabilities	$ 9,605	$ 105	$ 9,710
Other liabilities	$ —	$ 819	$ 819
Stockholders' Equity:			
Accumulated deficit	$ (187,756)	$ 4,803	$ (182,953)

The following tables present the effects of the adoption of Topic 606 on each financial statement line item of the Company's financial statements for the interim periods ended September 30, 2018 (in thousands, except per share data):

	As of September 30, 2018		
	As Reported	Impact of Adoption of Topic 606	Results Without Adoption of Topic 606
Consolidated Balance Sheet			
Assets:			
Accounts receivable, current	$ 2,626	$ 626	$ 2,000
Accounts receivable, non-current	$ 4,600	$ 4,600	$ —
Prepaid expenses	$ 6,308	$ 60	$ 6,248
Other current assets	$ 4,834	$ 2,000	$ 2,834
Liabilities:			
Accrued expenses and other current liabilities	$ 13,306	$ 322	$ 12,984
Deferred revenue	$ 600	$ 600	$ —
Other liabilities	$ 691	$ 691	$ —
Stockholders' Equity:			
Accumulated deficit	$ (87,322)	$ 5,673	$ (92,995)

	Three Months Ended September 30, 2018		
	As Reported	Impact of Adoption of Topic 606	Results Without Adoption of Topic 606
Consolidated Statement of Operations			
Revenues:			
License revenue	$ 5,306	$ 2,066	$ 3,240
Expenses:			
Licensing costs	$ 517	$ 193	$ 324
Other Income:			
Interest income from licensing	$ 109	$ 109	$ —
Net Income (Loss)	$ (19,202)	$ 1,982	$ (21,184)
Net Income (Loss) Per Share:			
Basic	$ (0.56)	$ 0.06	$ (0.62)
Diluted	$ (0.56)	$ 0.06	$ (0.62)

	Nine Months Ended September 30, 2018		
	As Reported	Impact of Adoption of Topic 606	Results Without Adoption of Topic 606
Consolidated Statement of Operations			
Revenues:			
License revenue	$ 177,728	$ (7,462)	$ 185,190
Expenses:			
Licensing costs	$ 6,797	$ 30	$ 6,767
Other Income:			
Interest income from licensing	$ 8,362	$ 8,362	$ —
Net Income (Loss)	$ 95,631	$ 870	$ 94,761
Net Income (Loss) Per Share:			
Basic	$ 2.94	$ 0.03	$ 2.91
Diluted	$ 2.67	$ 0.03	$ 2.64

	Nine Months Ended September 30, 2018		
	As Reported	Impact of Adoption of Topic 606	Results Without Adoption of Topic 606
Consolidated Statement of Cash Flows			
Cash Flows from Operating Activities:			
Net income	$ 95,631	$ 870	$ 94,761
Imputed interest income from licensing	$ (8,362)	$ (8,362)	$ —
Changes in accounts receivable	$ 6,986	$ 8,513	$ (1,527)
Changes in prepaid expenses	$ (974)	$ (60)	$ (914)
Changes in other current assets	$ (3,072)	$ (1,650)	$ (1,422)
Changes in accrued expenses and other current liabilities	$ 3,438	$ 217	$ 3,221
Changes in deferred revenue	$ 600	$ 600	$ —
Changes in other liabilities	$ (128)	$ (128)	$ —

The most significant effects that the adoption of Topic 606 had on the results of operations for the three and nine months ended September 30, 2018, as compared to what results would have been if Topic 605 had continued to be applied, is the amount of (i) license revenue recognized related to licensee development milestones and (ii) interest income from licensing recognized as a result of significant financing components identified within the Company's license agreements. Under Topic 606, development milestone payments from licensees are recognized as revenue to the extent that the development milestone is probable of achievement by the licensee and the underlying license has been delivered to the licensee by the Company. Under Topic 605, development milestone payments, if substantive, were not recognized as revenue until the development milestone was achieved by the licensee. During the three and nine months ended September 30, 2018, the Company recognized $2.0 million of license revenue, which would not have been recognized under the requirements of Topic 605, related to development milestones which were not achieved as of September 30, 2018 but were deemed probable of achievement by licensees and recorded as contract assets within other current assets on the

Company's consolidated balance sheet. Additionally, under Topic 606, if a significant financing component is identified within a license agreement, the Company is required to adjust the amount of revenue recognized upon the delivery of the license to the present value of the underlying consideration. The discounted portion of the consideration is recognized as interest income from licensing over the financing term of the license agreement. Under Topic 605, the amount of revenue recognized from the delivery of licenses is not adjusted for significant financing components. During the three and nine months ended September 30, 2018, the Company recognized $0.1 million and $8.4 million, respectively, of interest income from licensing as a result of significant financing components identified in its license agreements. The Company would not have recognized any interest income from significant financing components during these periods under the requirements of Topic 605.

Other recently adopted accounting pronouncements

In June 2018, the FASB issued ASU 2018-07, *Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-based Payment Accounting* which supersedes the existing guidance for accounting for stock-based awards to nonemployees under ASC 505-50, *Equity—Equity-based Payments to Nonemployees.* The new guidance expands the scope of Topic 718 to include stock-based awards to nonemployees for goods or services. Consequently, the accounting for stock-based awards to employees and nonemployees will be substantially aligned. The standard is effective for annual and interim periods beginning after December 15, 2018, with early adoption permitted upon issuance. The Company elected to early adopt this standard effective July 1, 2018, which required the Company to remeasure all of its outstanding stock-based awards to nonemployees which do not yet have established measurement dates to the estimated fair value on the adoption date. These awards, which consisted solely of stock options granted to third-party advisors with performance-based vesting conditions, will no longer be remeasured and any new stock-based awards granted to nonemployees after the adoption of the new standard will be measured at the estimated grant date fair value of the awards. The new standard requires the cumulative effect of the adoption on the adoption date to be presented as an adjustment to retained earnings as of the beginning of the year of adoption. On the adoption date, the Company had no unvested and outstanding stock-based awards to nonemployees which were probable of vesting. Accordingly, the adoption of this standard required no retrospective adjustment and did not have a material impact on the Company's financial position or results of operations.

In May 2017, the FASB issued ASU 2017-09, *Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting*, which clarifies when modification accounting should be applied for changes to terms or conditions of a stock-based award. The standard is effective for annual and interim periods beginning after December 15, 2017, with early adoption permitted, and is to be applied prospectively upon adoption. The Company adopted this standard effective January 1, 2018. The adoption of this standard did not have a material impact on the Company's financial position or results of operations.

In November 2016, the FASB issued ASU 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash*. The standard requires that the statement of cash flows explain the change during the period in the total of cash, cash equivalents and restricted cash. As a result, amounts generally described as restricted cash should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The standard is effective for annual and interim periods beginning after December 15, 2017, with early adoption permitted, and is to be applied retrospectively to each period presented. The Company adopted this standard effective January 1, 2018. The adoption of this standard did not have a material impact on the Company's consolidated statements of cash flows.

The Company's restricted cash consists of money market mutual funds used to collateralize an irrevocable letter of credit as required by the Company's lease agreement for its office space in New York, New York. The following table provides a reconciliation of cash and cash equivalents and restricted cash as reported on the consolidated balance sheets to the total of these amounts as reported at the end of the period in the consolidated statements of cash flows (in thousands):

	September 30, 2018	September 30, 2017
Cash and cash equivalents	$ 142,423	$ 59,884
Restricted cash	225	225
Total cash and cash equivalents and restricted cash	$ 142,648	$ 60,109

In January 2016, the FASB issued ASU 2016-01, *Financial Instruments—Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*, which modifies the current guidance on the recognition, measurement, presentation and disclosure of financial instruments. In February 2018, the FASB issued ASU 2018-03, *Technical Corrections and Improvements to Financial Instruments—Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*, which clarifies the guidance in ASU 2016-01. The Company adopted these standards effective January 1, 2018. Upon the adoption of these standards, the Company elected to measure its non-marketable equity securities without readily available fair values at cost less impairment, adjusted for observable price changes for identical or similar investments of the same issuer. Prior to the adoption of these standards, the Company measured these investments at cost less impairment. The adoption of these standards did not have a material impact on the Company's financial position or results of operations.

Recent accounting pronouncements not yet adopted

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*, which modifies certain disclosure requirements regarding fair value measurements. The standard is effective for annual and interim periods beginning after December 15, 2019, with early adoption permitted upon issuance. The Company does not believe the application of this standard will have a material impact on the Company's disclosures.

In February 2018, the FASB issued ASU 2018-02, *Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income* which amends the current guidance on comprehensive income to provide an option for an entity to reclassify the stranded tax effects of the Tax Cuts and Jobs Act of 2017 (the TCJA) that was signed into law in December 2017 from accumulated other comprehensive income directly to retained earnings. The stranded tax effects result from the remeasurement of deferred tax assets and liabilities which were originally recorded in comprehensive income but whose remeasurement is reflected in the income statement. The standard is effective for annual and interim periods beginning after December 15, 2018, with early adoption permitted upon issuance. The Company is evaluating the application of this standard but has not yet determined the potential effects it may have on the Company's consolidated financial statements.

In April 2017, the FASB issued ASU 2017-08, *Receivables—Nonrefundable Fees and Other Costs (Subtopic 310-20)*, which amends the required amortization period for certain purchased callable debt securities held at a premium by shortening the amortization period for the premium to the earliest call date. The standard is effective for annual and interim periods beginning after December 15, 2019, with early adoption permitted upon issuance, and is to be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. The Company does not believe the application of this standard will have a material impact on the Company's financial position or results of operations.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, which amends the accounting for credit losses for most financial assets and certain other instruments. The standard requires that entities holding financial assets and net investment in leases that are not accounted for at fair value through net income be presented at the net amount expected to be collected. An allowance for credit losses will be a valuation account that will be deducted from the amortized cost basis of the financial asset to present the net carrying value at the amount expected to be collected on the financial asset. The standard is effective for annual and interim periods beginning after December 15, 2019, with early adoption permitted for annual and interim periods beginning after December 15, 2018. The Company does not believe the application of this standard will have a material impact on the Company's financial position or results of operations.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)* which supersedes FASB ASC Topic 840, *Leases (Topic 840)* and provides principles for the recognition, measurement, presentation and disclosure of leases for both lessees and lessors. The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease, respectively. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases. In July 2018, the FASB issued ASU 2018-10, *Codification Improvements to Topic 842, Leases* and ASU 2018-11, *Leases (Topic 842): Targeted Improvements* which clarify and simplify multiple aspects of the guidance under Topic 842. The standards are effective for annual and interim periods beginning after December 15, 2018, with early adoption permitted upon issuance. The Company plans to adopt these standards using the modified retrospective transition method and will apply to leases in effect as of, or entered into after, January 1, 2019. The Company believes the new standards will significantly impact the accounting for its operating leases for office and laboratory facilities as well as any embedded leases within the Company's service contracts. The Company expects the adoption of these standards will have a material impact on the Company's consolidated balance sheet, as they will require the Company to recognize a right-of-use asset and lease liability for each of its lease agreements within the scope of the new standard. However, the Company does not expect the adoption of these standards to have a material impact on the Company's results of operations.

3. Marketable Securities

The following tables present a summary of the Company's marketable securities, which consist solely of available-for-sale debt securities (in thousands):

	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
September 30, 2018				
U.S. government and federal agency securities	$ 68,437	$ —	$ (145)	$ 68,292
Certificates of deposit	6,806	—	—	6,806
Corporate bonds	257,658	5	(299)	257,364
	$ 332,901	$ 5	$ (444)	$ 332,462

	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
December 31, 2017				
Corporate bonds	$ 130,018	$ 2	$ (282)	$ 129,738
	$ 130,018	$ 2	$ (282)	$ 129,738

As of September 30, 2018 and December 31, 2017, no available-for-sale securities had remaining maturities greater than three years.

The amortized cost of available-for-sale securities is adjusted for amortization of premiums and accretion of discounts to maturity. As of September 30, 2018 and December 31, 2017, the balance in the Company's accumulated other comprehensive loss consisted solely of net unrealized gains and losses on available-for-sale securities, net of income tax effects and reclassification adjustments for realized gains and losses. During the three months and nine months ended September 30, 2018, the Company recognized net unrealized losses on available-for-sale securities of $0.1 million and $0.2 million, respectively, and income tax expense of $0 in other comprehensive income (loss) for the period. The Company recognized net realized losses of less than $0.1 million on the sale or maturity of available-for-sale securities during the three and nine months ended September 30, 2018, which were reclassified out of accumulated other comprehensive loss during the period and are included in investment income in the consolidated statements of operations and comprehensive income (loss). During the three and nine months ended September 30, 2017, the Company recognized net unrealized gains (losses) on available-for-sale securities of $0.1 million and less than $(0.1) million, respectively, and income tax expense of $0 in other comprehensive income (loss) for the period. The Company recognized net realized gains of less than $0.1 million and $0.5 million on the sale or maturity of marketable securities during the three and nine months ended September 30, 2017, respectively, which were reclassified out of accumulated other comprehensive loss during the period and are included in investment income in the consolidated statements of operations and comprehensive income (loss).

The following tables present the fair values and unrealized losses of marketable securities held by the Company in an unrealized loss position for less than 12 months and 12 months or greater (in thousands):

	Less than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
September 30, 2018						
U.S. government and federal agency securities	$ 68,292	$ (145)	$ —	$ —	$ 68,292	$ (145)
Corporate bonds	222,129	(259)	10,588	(40)	232,717	(299)
	$ 290,421	$ (404)	$ 10,588	$ (40)	$ 301,009	$ (444)

	Less than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
December 31, 2017						
Corporate bonds	$ 109,238	$ (180)	$ 17,124	$ (102)	$ 126,362	$ (282)
	$ 109,238	$ (180)	$ 17,124	$ (102)	$ 126,362	$ (282)

As of September 30, 2018, securities held by the Company which were in an unrealized loss position consisted of 106 investment grade fixed income security positions. The Company has the intent and ability to hold such securities until recovery and has determined that none of its investments were other-than-temporarily impaired as of September 30, 2018 or December 31, 2017.

4. Fair Value of Financial Instruments

Financial instruments reported at fair value on a recurring basis include cash equivalents and marketable securities. The following tables present the fair value of cash equivalents and marketable securities in accordance with the hierarchy discussed in Note 2 (in thousands):

	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
September 30, 2018				
Cash equivalents:				
Money market mutual funds	$ —	$ 136,761	$ —	$ 136,761
Corporate bonds	—	5,644	—	5,644
Total cash equivalents	—	142,405	—	142,405
Marketable securities:				
Certificates of deposit	—	6,806	—	6,806
U.S. government and federal agency securities	—	68,292	—	68,292
Corporate bonds	—	257,364	—	257,364
Total marketable securities	—	332,462	—	332,462
Total cash equivalents and marketable securities	$ —	$ 474,867	$ —	$ 474,867

	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
December 31, 2017				
Cash equivalents:				
Money market mutual funds	$ —	$ 46,646	$ —	$ 46,646
Total cash equivalents	—	46,646	—	46,646
Marketable securities:				
Corporate bonds	—	129,738	—	129,738
Total marketable securities	—	129,738	—	129,738
Total cash equivalents and marketable securities	$ —	$ 176,384	$ —	$ 176,384

There were no transfers of financial instruments between levels of the fair value hierarchy during the nine months ended September 30, 2018.

Management estimates that the carrying amounts of its current accounts receivable, accounts payable and accrued expenses and other current liabilities approximate fair value due to the short-term nature of those instruments. Non-current accounts receivable are recorded at their present values using a discount rate that is based on prevailing market rates and the credit profile of the licensee on the date the amounts are initially recorded. Management does not believe there have been any significant changes in market conditions that would cause the discount rates used to be significantly different from those that would be used as of September 30, 2018 to determine the present value of the receivables. Accordingly, management estimates that the carrying value of its non-current accounts receivable approximates the fair value of those instruments.

The Company’s non-marketable equity securities are measured at cost less impairment, adjusted for observable price changes for identical or similar investments of the same issuer. As of September 30, 2018 and December 31, 2017, non-marketable equity securities had carrying values of $0.4 million and are included in other assets on the consolidated balance sheets. Since the acquisition of the securities, the Company has not identified any observable price changes or changes in circumstances that would have an adverse effect on the fair value of its non-marketable equity securities as of September 30, 2018. No impairment losses on non-marketable equity securities were recorded during the three and nine months ended September 30, 2018 and 2017.

5. Property and Equipment, Net

Property and equipment, net consists of the following (in thousands):

	September 30, 2018	December 31, 2017
Lab equipment	$ 11,129	$ 8,561
Computer equipment and software	1,945	1,481
Furniture and fixtures	1,872	1,384
Leasehold improvements	10,836	5,828
Total property and equipment	25,782	17,254
Accumulated depreciation and amortization	(5,926)	(3,277)
Property and equipment, net	$ 19,856	$ 13,977

6. Commitments and Contingencies

Lease Agreements

The Company recognizes rent expense on a straight-line basis over the term of its operating leases commencing on the date the Company takes possession of the leased property. Tenant improvement allowances that are considered to be lease incentives from the lessor are recorded as deferred rent and amortized as a reduction of rent expense over the term of the lease from the possession date.

In March 2015, the Company entered into a non-cancelable operating lease for office space at 9712 Medical Center Drive in Rockville, Maryland (the 9712 Medical Center Drive Lease). The lease term commenced in April 2015. Monthly payments under the lease began in October 2015 and escalate annually in accordance with the lease agreement.

In September 2015, November 2015, July 2017 and April 2018, the Company amended the 9712 Medical Center Drive Lease to include additional office and laboratory space at 9714 Medical Center Drive, and ultimately extend the term of the lease to September 2021. The Company has options to extend the term of the 9712 Medical Center Drive Lease for up to six additional years. Under the amended lease, the Company has received a $0.4 million tenant improvement allowance from the landlord which will be deferred and amortized on a straight-line basis as a reduction of rent expense over the term of the lease.

In January 2016, the Company entered into a 7.5-year, non-cancelable operating lease for its corporate headquarters at 9600 Blackwell Road in Rockville, Maryland (the Blackwell Road Lease). The lease commenced in February 2016, and expires in September 2023. The Company has an option to extend the term of the lease for an additional five years. In November 2017, the Blackwell Road Lease was amended to include additional office space for the remainder of the lease term. Monthly payments under the lease began in September 2016 and escalate annually in accordance with the lease agreement. The Company received a $0.8 million tenant improvement allowance from the landlord which will be deferred and amortized on a straight-line basis as a reduction of rent expense over the term of lease.

In May 2016, the Company entered into a 51-month, non-cancelable operating lease for additional office space at 400 Madison Avenue in New York, New York. The lease commenced in July 2016, and expires in October 2020. Monthly payments under the lease began in October 2016 and escalate annually in accordance with the lease agreement. Under the terms of the lease agreement, the Company has provided the landlord with an irrevocable letter of credit of $0.2 million which the landlord may draw upon in the event of any uncured default by the Company under the terms of the lease. As of September 30, 2018, the Company has recorded restricted cash of $0.2 million as collateral to the financial institution which issued the letter of credit.

In September 2018, the Company entered into a 39-month, non-cancelable operating lease for additional office and laboratory space at 9600 Medical Center Drive in Rockville, Maryland. The lease commenced in October 2018, and expires in December 2021. Monthly payments under the lease begin in December 2018 and escalate annually in accordance with the lease agreement.

As of September 30, 2018, future minimum lease payments under non-cancelable operating leases are as follows (in thousands):

	Operating Leases
2018 (remainder of year)	$ 660
2019	2,946
2020	2,975
2021	2,335
2022	621
Thereafter	479
Total minimum lease payments	$ 10,016

In November 2018, the Company entered into an operating lease for approximately 132,000 square feet of office and laboratory facilities in a new building to be constructed at 9800 Medical Center Drive in Rockville, Maryland (the 9800 Medical Center Drive Lease). Construction of the new building, which will be conducted by the landlord, is expected to be completed in mid-2020 and the lease will expire approximately 16 years from the delivery of the leased premises to the Company, subject to certain extension and termination options. Under the terms of the 9800 Medical Center Drive Lease, the Company will receive a $14.6 million tenant improvement allowance from the landlord to construct additional improvements to the leased premises. The Company has the option to extend the term of the lease for up to 10 additional years and the option to terminate the lease after 12 years from the delivery of the leased premises to the Company. If the Company elects to terminate the lease, it will be subject to a termination fee equal to the unamortized tenant improvement allowance, rent abatement and landlord commissions as of the termination date, bearing interest at 5% per annum, plus four months of base rent and operating expenses. Additionally, after delivery of the leased premises under the 9800 Medical Center Drive Lease, the Company will have the option to terminate the 9712 Medical Center Drive Lease with six months' notice. Monthly payments under the 9800 Medical Center Drive Lease begin approximately 12 months from the delivery of the leased premises to the Company and escalate annually in accordance with the lease agreement. Total future minimum lease payments under the 9800 Medical Center Drive Lease, which are subject to adjustment based on the actual square footage of the facility to be constructed, are estimated to be $87.6 million and payments are expected to begin in 2021.

Licenses Granted to the Company

The Company licenses intellectual property from third-parties, primarily for technology used in the Company's product candidates and development programs and which may be sublicensed to NAV Technology Licensees. Licenses granted to the Company may require the Company to make future payments relating to sublicense fees, milestone fees for milestones achieved in the future and royalties on future sales of licensed products. Additionally, the Company may be responsible for the cost of the maintenance of the intellectual property as incurred by its licensors. Up-front fees to obtain licensed technology are included in research and development expenses and patent maintenance costs are included in general and administrative expenses in the consolidated statements of operations and comprehensive income (loss). Sublicense fees are based on a specified percentage of license fees earned by the Company and are included in licensing costs in the consolidated statements of operations and comprehensive income (loss). Milestone fees are included in licensing costs in the consolidated statements of operations and comprehensive loss if the underlying milestone is achieved by a licensee, or in research and development expense if the underlying milestone is achieved by the Company as a result of the development of its product candidates. Royalties on sales of licensed reagents for use in research and development are included in other costs of revenue in the consolidated statements of operations and comprehensive income (loss). The Company has not commercialized any product candidates or paid any royalties under these agreements other than for the sales of licensed reagents.

The Trustees of the University of Pennsylvania. In February 2009, the Company entered into a license agreement, which has been amended from time to time, with The Trustees of the University of Pennsylvania (together with the University of Pennsylvania,

Penn) for exclusive, worldwide rights to certain patents owned by Penn underlying the Company's NAV Technology Platform. Under the terms of the agreement, in consideration for the license, the Company issued to Penn a 24.5% equity interest in the Company on a fully diluted basis after issuance. The Company is obligated to pay Penn royalties on net sales and sublicense fees, if any. Additionally, the Company is obligated to reimburse Penn for certain costs incurred related to the maintenance of the licensed patents.

In April 2016, the Company entered into an agreement with Penn whereby the Company will fund clinical trial activities performed by Penn for RGX-501, the Company's product candidate for the treatment of homozygous familial hypercholesterolemia (HoFH). In connection with the agreement, the Company amended its license from Penn to include exclusive license rights to data, results and other information generated in connection with the RGX-501 clinical trial.

Expenses incurred by the Company related to its license from Penn were as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Sublicense fees	$ (14)	$ 92	$ (14)	$ 793
Royalties on sales of reagents	—	—	—	4
Maintenance of licensed patents	—	28	117	197
	$ (14)	$ 120	$ 103	$ 994

As of September 30, 2018 and December 31, 2017, the Company had accrued $0.1 million and less than $0.1 million, respectively, in expenses payable to Penn under the license agreement, which are included in accounts payable, accrued expenses and other current liabilities and other liabilities on the Company's consolidated balance sheets.

GlaxoSmithKline LLC. In March 2009, the Company entered into a license agreement, which was amended in April 2009, with GlaxoSmithKline LLC (GSK) for exclusive, worldwide rights to certain patents underlying the Company's NAV Technology Platform which are owned by Penn and exclusively licensed to GSK. Under the terms of the agreement, in consideration for the license, the Company issued to GSK a 19.9% equity interest in the Company on a fully diluted basis after issuance. The Company is obligated to pay GSK royalties on net sales and sublicense fees, if any. Additionally, the Company is obligated to reimburse GSK for certain costs incurred and invoiced to the Company related to the maintenance of the licensed patents. The Company is also obligated to pay GSK up to $1.5 million upon the achievement of various milestones. From the inception of the agreement through September 30, 2018, the Company has incurred $0.5 million for milestones that have been achieved or are deemed probable of achievement.

Expenses incurred by the Company related to its license from GSK were as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Sublicense fees	$ 531	$ 92	$ 6,561	$ 793
Royalties on sales of reagents	—	—	—	2
Milestone fees	—	500	—	500
Maintenance of licensed patents	163	290	653	449
	$ 694	$ 882	$ 7,214	$ 1,744

As of September 30, 2018 and December 31, 2017, the Company had accrued $1.7 million and $0.3 million, respectively, in expenses payable to GSK under the license agreement, which are included in accounts payable, accrued expenses and other current liabilities and other liabilities on the Company's consolidated balance sheets.

Other Licenses

In November 2014, the Company entered into a license agreement, which was amended in November 2016, with Regents of the University of Minnesota (Minnesota), for an exclusive license under Minnesota's interest in certain patent rights which are co-owned by Minnesota and the Company to commercialize products covered by the licensed patent rights in any country or territory in which a licensed patent has been issued and is unexpired, or a licensed patent application is pending. In consideration for the license, the Company paid an up-front fee, and reimbursed Minnesota for patent maintenance expenses incurred to date. Under the terms of the agreement, the Company is obligated to pay Minnesota annual maintenance fees, royalties on net sales and sublicense fees, if any, and fees upon the achievement of various milestones. In November 2016, the license with Minnesota was amended to include additional patent rights. In consideration for the additional patent rights, the Company paid an up-front fee.

In August 2018, the Company entered into a license agreement with Emory University (Emory) for an exclusive license under Emory's interest in certain patent rights which are co-owned by Emory and the Company to commercialize products covered by the

licensed patent rights in any country or territory in which a licensed patent has been issued and is unexpired, or a licensed patent application is pending. In consideration for the license, the Company paid an up-front fee and is obligated to reimburse Emory for patent prosecution and maintenance expenses and pay Emory annual maintenance fees under certain circumstances, royalties on net sales and sublicense fees, if any, and fees upon the achievement of various milestones for the first licensed product.

Other Funding Commitments

In the normal course of business, the Company enters into agreements with contract research organizations, contract manufacturing organizations and other third-parties for services to be provided to the Company. Generally, these agreements provide for termination upon notice, with specified amounts due upon termination based on the timing of termination and the terms of the agreement. The actual amounts and timing of payments under these agreements are uncertain and contingent upon the initiation and completion of services to be provided to the Company.

Guarantees and Indemnifications

In the normal course of business, the Company enters into agreements that contain a variety of representations and provide for general indemnification. The Company's potential exposure under these agreements is unknown because it involves claims that may be made against the Company in the future. To date, the Company has not paid any claims or been required to defend any action related to its indemnification obligations. As of September 30, 2018 and December 31, 2017, the Company did not have any material indemnification claims that were probable or reasonably possible and consequently has not recorded any related liabilities.

European Patent Office Proceeding

In June 2017, a third party filed an opposition with the European Patent Office (EPO) challenging the validity of a European patent owned by Penn for the AAV8 vector, which the Company has exclusively licensed (EU AAV8 Patent). The EPO conducted oral proceedings in October 2018, and upheld the validity of the EU AAV8 Patent subject to certain amendments made during the proceeding. As of September 30, 2018, the Company has not recorded any liabilities related to this matter.

7. License Revenue

Effective January 1, 2018, the Company adopted Topic 606 using the modified retrospective transition method and has applied the new standard to all of its license agreements in effect as of January 1, 2018. Please refer to Note 2 for additional information regarding the adoption of Topic 606. License revenue for periods ending after January 1, 2018 is presented in accordance with the requirements of Topic 606, while prior period amounts have not been adjusted and continue to be reported in accordance with Topic 605 and accordingly, may not be comparable.

As of September 30, 2018, the Company's NAV Technology Platform was being applied in the development of more than 20 partnered product candidates by its NAV Technology Licensees. Consideration to the Company under its license agreements may include: (i) up-front fees, (ii) option fees to obtain additional licenses, (iii) annual maintenance fees, (iv) milestone payments based on the achievement of certain development and sales-based milestones by licensees, (v) sublicense fees and (vi) royalties on sales of licensed products. Sublicense fees vary by license and range from a mid-single digit percentage to a low-double digit percentage of license fees received by licensees as a result of sublicenses. Royalties on net sales of commercialized products vary by license and range from a mid-single digit percentage to a low double-digit percentage of net sales by licensees. To date the Company has not recognized any revenue from the achievement of sales-based milestones, royalties on sales of licensed products or sublicense fees.

Development milestone payments are only included in the transaction price of each license and recognized as revenue to the extent they are considered probable of achievement. Sales-based milestones are excluded from the transaction price of each license agreement and recognized as revenue in the period of achievement. As of September 30, 2018, the Company's license agreements, excluding additional licenses that could be granted upon the exercise of options by licensees, contained unachieved development milestones which could result in aggregate milestone fees payable to the Company of up to $27.4 million upon the commencement of various stages of clinical trials, $45.5 million upon the submission of regulatory approval filings, $111.5 million upon the approval of commercial products by regulatory agencies and $172.0 million upon the achievement of specified sales targets for licensed products. To the extent the milestone fees are realized by the Company, the Company will be obligated to pay sublicense fees to licensors based on a specified percentage of the fees earned by the Company. The achievement of milestones by licensees is highly dependent on the successful development and commercialization of licensed products and it is at least reasonably possible that some or all of the milestone fees will not be realized by the Company.

The following table presents changes in the balances of the Company's receivables, contract assets and contract liabilities during the periods presented (in thousands):

	Balance at Beginning of Period	Net Additions (Deductions)	Balance at End of Period
Three Months Ended September 30, 2018			
Receivables and contract assets:			
Accounts receivable, current and non-current	$ 5,224	$ 2,002	$ 7,226
Contract assets	$ —	$ 2,000	$ 2,000
Contract liabilities:			
Deferred revenue	$ 600	$ —	$ 600

	Balance at Beginning of Period	Net Additions (Deductions)	Balance at End of Period
Nine Months Ended September 30, 2018			
Receivables and contract assets:			
Accounts receivable, current and non-current	$ 5,850	$ 1,376	$ 7,226
Contract assets	$ 350	$ 1,650	$ 2,000
Contract liabilities:			
Deferred revenue	$ —	$ 600	$ 600

The net increase in the balance of accounts receivable during the three and nine months ended September 30, 2018 is primarily attributable to the achievement of a regulatory development milestone by a licensee in September 2018. The Company recognized license revenue of $2.0 million upon the achievement of the milestone, which was previously not considered probable of achievement. The net increase in the balance of contract assets during the three and nine months ended September 30, 2018 is primarily attributable to a regulatory development milestone which was deemed probable of achievement by a licensee during the period but was not achieved as of September 30, 2018. The Company recognized license revenue of $2.0 million during the period related to the milestone which was previously not considered probable of achievement.

As of September 30, 2018, the Company had recorded deferred revenue of $0.6 million which represents consideration received from licensees for performance obligations that have not yet been satisfied by the Company. Unsatisfied performance obligations consist of options granted to licensees that provide material rights to the licensee to acquire future licenses from the Company. These performance obligations will be satisfied, and underlying revenue will be recognized, upon the exercise or expiration of the options.

During the three and nine months ended September 30, 2018, the Company recognized license revenue of $4.1 million and $4.2 million, respectively, from licenses delivered to licensees in prior periods as a result of changes in the transaction prices of its license agreements. Changes in the transaction price were primarily attributable to development milestones achieved or deemed probable of achievement during the period that were previously not considered probable of achievement. Additionally, the Company recognized $0.1 million and $0.4 million of interest income from licensing during the three and nine months ended September 30, 2018, respectively, from licenses delivered in prior periods which contained significant financing components.

As of September 30, 2018, the Company had not recognized any impairment losses on its receivables or contract assets from contracts with customers.

AveXis, Inc. March 2014 License and January 2018 Amendment

In March 2014, the Company entered into an exclusive license agreement (the March 2014 License) with AveXis, Inc. (AveXis). Under the license, the Company granted AveXis an exclusive, worldwide commercial license, with rights to sublicense, to the NAV AAV9 vector for the treatment of spinal muscular atrophy (SMA) in humans by *in vivo* gene therapy. In consideration for the license, AveXis paid the Company an up-front fee of $2.0 million, and is required to pay annual maintenance fees, development milestone payments of up to $12.3 million, mid-single to low double-digit royalties on net sales of licensed products, subject to reduction in specified circumstances, and a lower mid-double digit percentage of any sublicense fees AveXis receives from sublicensees for the licensed intellectual property rights.

In January 2018, the Company entered into an amendment (the January 2018 Amendment) to the March 2014 License with AveXis. Under the January 2018 Amendment, the licensed intellectual property was expanded to include, in addition to the NAV AAV9 vector previously licensed, any other recombinant AAV vector in the Company's intellectual property portfolio during a period of 14 years from the effective date of the January 2018 Amendment, for the treatment of SMA in humans by *in vivo* gene therapy. The Company may also, in its sole discretion, provide specified collaborative services to AveXis as specified in the January 2018 Amendment.

The January 2018 Amendment also modified the terms and conditions of the March 2014 License relating to assignment. Under the amended assignment provision, AveXis is permitted to transfer the March 2014 License, as amended, without the Company's consent in connection with a change of control of AveXis, subject to the transferee or successor agreeing in writing to be bound by the terms of the March 2014 License, as amended, and the payment to the Company of certain fees due upon such change of control, as described below. Under the original March 2014 License, any assignment by AveXis without the Company's prior written consent had been prohibited.

Pursuant to the January 2018 Amendment, in consideration for the additional rights granted thereunder and in addition to any consideration owed under the original March 2014 License, AveXis paid to the Company a fee of $80.0 million upon entry into the January 2018 Amendment. In addition, AveXis was obligated to pay the Company (i) $30.0 million on the first anniversary of the effective date of the January 2018 Amendment, (ii) $30.0 million on the second anniversary of the effective date of the January 2018 Amendment and (iii) potential sales-based milestone payments of up to $120.0 million. In the event of a change of control of AveXis, to the extent that any fee described in (i) or (ii) above, or the first $40.0 million of sales-based milestone payments described in (iii) above, had not yet been paid to the Company, the January 2018 Amendment obliged AveXis to pay any such unpaid fee to the Company upon the change of control. For any product developed for the treatment of SMA using the NAV AAV9 vector, AveXis will continue to be obligated to pay to the Company mid-single to low double-digit royalties on net sales as defined in the March 2014 License, and for any product developed for the treatment of SMA using a licensed vector other than NAV AAV9, the Company will receive a low double-digit royalty on net sales.

In May 2018, AveXis was acquired by Novartis AG (Novartis), which qualified as a change of control of AveXis under the January 2018 Amendment. Pursuant to the January 2018 Amendment, AveXis paid the Company $100.0 million in accelerated license payments as a result of the change of control.

Accounting Analysis

The January 2018 Amendment was accounted for under Topic 606 as a modification of the license agreement resulting in a new and separate contract from the original March 2014 License for revenue recognition purposes. The only material performance obligation of the Company under the January 2018 Amendment is for the delivery of the modified license, which occurred upon the execution of the amendment in January 2018.

As of September 30, 2018, the transaction price of the original March 2014 License was $7.5 million. The transaction price of $7.5 million includes (i) the up-front payment in March 2014 of $2.0 million, (ii) the present value of aggregate annual maintenance fees payable to the Company over the term of the license and (iii) the development milestones that had been achieved to date or are deemed probable of achievement. The discounted portion of the annual maintenance fees represents the financing benefit provided to AveXis and is recognized as interest income from licensing over the term of the license. Variable consideration under the original March 2014 License, which has been excluded from the transaction price, includes payments for remaining development milestones that have not yet been achieved and are not considered probable of achievement, as well as any potential sublicense fees or royalties on sales of licensed products, which will be recognized in the period of the underlying sales or sublicenses, if any.

Upon its execution, the transaction price of the January 2018 Amendment was $132.1 million, which was fully recognized as license revenue upon the delivery of the modified license in January 2018. In May 2018, as a result of the acquisition of AveXis by Novartis, the transaction price was increased by $40.0 million to account for the acceleration of the sale-based milestone which was previously excluded from the transaction price. The $40.0 million increase in the transaction price was recognized as license revenue upon the completion of the change of control in May 2018 since the amended license had been fully delivered to AveXis. Additionally, due to the acceleration of the two $30.0 million payments originally due in January 2019 and January 2020, the Company recognized $6.1 million of interest income from licensing upon the completion of the change of control of AveXis, which represents the remaining present value discount on such payments as of the date of the change of control of AveXis. The transaction price of $172.1 million as of September 30, 2018 includes the following fixed consideration: (i) the $80.0 million payment in January 2018, (ii) the present value, as of the date of the January 2018 Amendment, of the two $30.0 million payments originally due in January 2019 and January 2020 and (iii) the $40.0 million sales-based milestone which was accelerated upon the change of control in May 2018. Variable consideration under the January 2018 Amendment, which has been excluded from the transaction price, includes the remaining sales-based milestone payment of $80.0 million, as well as any potential sublicense fees or royalties on sales of licensed products, which will be recognized in the period of the underlying sales or sublicenses, if any.

During the three and nine months ended September 30, 2018, the Company recognized license revenue of $4.0 million and $176.1 million, respectively, and interest income from licensing of less than $0.1 million and $8.0 million, respectively, from the March 2014 License, as amended, with AveXis, which includes the amounts from both the original March 2014 License and the January 2018 Amendment. As of September 30, 2018, the Company had recorded $2.2 million of accounts receivable from AveXis under the March 2014 License, as amended, of which $2.0 million are included in current assets and $0.2 million are included in non-current assets on the consolidated balance sheets. As of September 30, 2018, the Company had recorded $2.0 million of contract assets for development milestones deemed probable of achievement by AveXis under the March 2014 License, as amended, which are included in other current assets on the consolidated balance sheets.

During the three and nine months ended September 30, 2017, the Company recognized license revenue of $0 and $0.1 million, respectively, from the March 2014 License which was recognized under the requirements of Topic 605. As of December 31, 2017, the Company had no amounts receivable from AveXis related to the March 2014 License under the requirements of Topic 605.

AveXis, Inc. June 2017 License

In June 2017, the Company entered into an exclusive license agreement (the June 2017 License) with AveXis. Under the license, the Company granted AveXis an exclusive, worldwide commercial license, with rights to sublicense, to the NAV AAV9 vector for the treatment of Rett Syndrome and amyotrophic lateral sclerosis (ALS) caused by mutations in the gene that produces the copper zinc superoxide dismutase 1 (SOD1) in humans by *in vivo* gene therapy. In consideration for the license, AveXis paid the Company an up-front fee of $6.0 million, and is required to pay annual maintenance fees, development milestone payments of up to $36.0 million, a low double-digit royalty percentage on net sales of licensed products, subject to reduction in specified circumstances, and a lower mid-double digit percentage of any sublicense fees AveXis receives from sublicensees for the licensed intellectual property rights.

During the three and nine months ended September 30, 2018, the Company recognized license revenue of $0 and interest income from licensing of less than $0.1 million and $0.1 million, respectively, from the June 2017 License with AveXis. As of September 30, 2018, the Company had recorded $0.8 million of accounts receivable from AveXis under the June 2017 License, of which $0.1 million are included in current assets and $0.7 million are included in non-current assets on the consolidated balance sheets.

During the three and nine months ended September 30, 2017, the Company recognized license revenue of $0 and $6.0 million, respectively, from the June 2017 License which was recognized under the requirements of Topic 605. As of December 31, 2017, the Company had no amounts receivable from AveXis related to the June 2017 License under the requirements of Topic 605.

Abeona Therapeutics Inc.

In November 2018, the Company entered into an exclusive license agreement with Abeona Therapeutics Inc. (Abeona). Under the license, the Company granted Abeona an exclusive worldwide commercial license (subject to certain non-exclusive rights previously granted by the Company), with rights to sublicense, to the NAV AAV9 vector for the treatment of Mucopolysaccharidosis Type IIIA (MPS IIIA), also known as Sanfilippo Syndrome Type A, Mucopolysaccharidosis Type IIIB (MPS IIIB), also known as Sanfilippo Syndrome Type B, Neuronal Ceroid Lipfuscinosis-1 (CLN1 disease), also known as infantile Batten Disease, and Neuronal Ceroid Lipfuscinosis-3 (CLN3 disease), also known as juvenile Batten Disease, by *in vivo* gene therapy. In consideration for the license, Abeona is obligated to pay up-front and annual payments to the Company totaling up to $120.0 million, which are payable as follows: (i) $10.0 million payable upon the execution of the license agreement, (ii) $10.0 million payable within 12 months of the effective date of the license agreement, and (iii) $100.0 million payable in five annual installments of $20.0 million beginning on the second anniversary of the effective date of the license agreement, which are subject to reduction should Abeona terminate some but not all of the licensed indications. Any unpaid portion of the first $40.0 million of up-front and annual payments described above shall become payable upon termination of the license agreement. In the event of a change of control of Abeona, any remaining unpaid up-front and annual payments described above shall become payable upon the change of control. As additional consideration for the license, Abeona is also obligated to pay the Company up to $60.0 million upon the achievement of specified sales-based milestones, low double-digit royalties on net sales of licensed products, subject to reduction in specified circumstances, and a lower mid-double digit percentage of any sublicense fees Abeona receives from sublicensees for the licensed intellectual property rights.

8. Stock-based Compensation

In January 2018, an additional 1,251,810 shares became available for issuance under the 2015 Equity Incentive Plan (the 2015 Plan). As of September 30, 2018, the total number of shares of common stock authorized for issuance under the 2015 Plan and 2014 Stock Plan (the 2014 Plan) was 9,488,413, of which 2,196,366 remain available for future grants under the 2015 Plan.

Stock-based Compensation Expense

The Company's stock-based compensation expense by award type is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Stock options	$ 4,309	$ 2,598	$ 11,248	$ 7,370
Restricted stock units	69	69	206	207
Employee stock purchase plan	105	67	301	232
	$ 4,483	$ 2,734	$ 11,755	$ 7,809

As of September 30, 2018, the Company had $40.8 million of unrecognized stock-based compensation expense related to stock options, restricted stock units and the 2015 Employee Stock Purchase Plan (the 2015 ESPP), which is expected to be recognized over a weighted-average period of 2.7 years.

The Company has recorded aggregate stock-based compensation expense in the consolidated statements of operations and comprehensive income (loss) as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Research and development	$ 1,940	$ 1,424	$ 5,364	$ 3,799
General and administrative	2,543	1,310	6,391	4,010
	$ 4,483	$ 2,734	$ 11,755	$ 7,809

Stock Options

The following table summarizes stock option activity under the 2014 Plan and 2015 Plan (in thousands, except per share data):

	Shares	Weighted-average Exercise Price	Weighted-average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (a)
Outstanding at December 31, 2017	5,468	$ 10.25	7.9	$ 125,738
Granted	1,275	$ 38.37		
Exercised	(1,275)	$ 7.22		
Cancelled or forfeited	(297)	$ 16.91		
Outstanding at September 30, 2018	5,171	$ 17.55	7.7	$ 299,646
Exercisable at September 30, 2018	2,726	$ 8.85	6.9	$ 181,718
Vested and expected to vest at September 30, 2018	5,150	$ 17.62	7.7	$ 298,060

(a) The aggregate intrinsic value is calculated as the difference between the exercise price of the underlying options and the fair value of the common stock for the options that were in the money at the dates reported.

The weighted-average grant date fair value per share of options granted during the nine months ended September 30, 2018 was $25.57. During the nine months ended September 30, 2018, the total number of stock options exercised was 1,274,980, resulting in total proceeds of $9.1 million. The total intrinsic value of options exercised during the nine months ended September 30, 2018 was $47.5 million.

Restricted Stock Units

The following table summarizes restricted stock unit activity under the 2015 Plan (in thousands, except per share data):

	Shares	Weighted-average Grant Date Fair Value
Unvested balance at December 31, 2017	40	$ 20.90
Granted	—	$ —
Vested	—	$ —
Forfeited	—	$ —
Unvested balance at September 30, 2018	40	$ 20.90

Employee Stock Purchase Plan

As of September 30, 2018, the total number of shares of common stock authorized for issuance under the 2015 ESPP was 254,000, of which 169,580 remain available for future issuance. During the nine months ended September 30, 2018, 36,700 shares of common stock were issued under the 2015 ESPP.

9. Income Taxes

The TCJA was signed into law in December 2017, and has resulted in significant changes to the U.S. corporate income tax system. In December 2017, the SEC staff issued Staff Accounting Bulletin No. 118 (SAB 118), which allows the Company to record provisional amounts for the effects of the TCJA in the period it was enacted for a measurement period not extend beyond one year from the enactment date. In accordance with SAB 118, the Company has determined that the impact of the TCJA to its deferred tax assets and liabilities and valuation allowance as of September 30, 2018 and December 31, 2017 is an estimate and provisional amount. The final impact of the TCJA may differ from this provisional amount due to changes in the Company's estimates and the issuance of additional regulatory or other guidance. The Company expects to complete its assessment of the final impact of the TCJA within the required measurement period under SAB 118.

The Company's effective tax rate for the three and nine months ended September 30, 2018 differed from the U.S. federal statutory rate of 21%, primarily due to tax credits generated, tax windfall benefits from share-based payments and the expected utilization of U.S. federal net operating loss (NOL) carryforwards. These benefits were partially offset by state taxes and non-deductible expenses.

The Company's net deferred tax assets decreased during the nine months ended September 30, 2018, primarily as a result of the expected utilization of U.S. federal and state NOL carryforwards. The decrease in deferred tax assets was offset by a corresponding decrease in the Company's valuation allowance resulting in no impact on the Company's tax provision for the period.

The Company has evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets. Based on the Company's history of operating losses, the Company has concluded that it is more likely than not that the benefit of its deferred tax assets will not be realized. Accordingly, the Company has provided a full valuation allowance for its net deferred tax assets as of September 30, 2018 and December 31, 2017.

10. Related Party Transactions

FOXKISER LLP

Effective January 2017, the Company entered into a Professional Services Agreement with FOXKISER LLP (FOXKISER), an affiliate of certain stockholders of the Company and an affiliate of a member of the Company's Board of Directors, pursuant to which the Company pays a fixed monthly fee in consideration for certain strategic planning, development and regulatory services provided by FOXKISER. The agreement expired in December 2017, and effective January 2018 the Company entered into a new Professional Services Agreement with FOXKISER, which has a term of one year and is terminable by either party, at any time, upon 60 days' prior written notice to the other party. Costs incurred under the agreements with FOXKISER for the three and nine months ended September 30, 2018 were $0.5 million and $1.6 million, respectively. Costs incurred under the agreements with FOXKISER for the three and nine months ended September 30, 2017 were $0.4 million and $1.1 million, respectively. Costs incurred under the agreements with FOXKISER are recorded as research and development expenses in the consolidated statements of operations and comprehensive income (loss).

Scientific Founder and Special Advisor

In September 2014, the Company entered into an advisory agreement, as amended, with James M. Wilson, M.D., Ph.D., who was formerly the Company's Chief Scientific Advisor, and is currently the Chairman of the Company's Scientific Advisory Board and Special Advisor. The agreement required a fixed monthly payment in consideration for scientific advisory services and expired in March 2017, after which the Company no longer deemed Dr. Wilson to be a related party. During the three months ended March 31, 2017, the Company incurred advisory fees of $0.1 million under the agreement, which are recorded as research and development expenses in the consolidated statements of operations and comprehensive income (loss). Pursuant to a new advisory agreement entered into in March 2017 and which expires on December 31, 2018, Dr. Wilson may provide services at no cost to the Company.

11. Net Income (Loss) Per Share

The computations of basic and diluted net income (loss) per share are as follows (in thousands, except per share data):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Basic net income (loss) per share:				
Net income (loss) applicable to common stockholders	$ (19,202)	$ (20,706)	$ 95,631	$ (57,172)
Shares used in computation:				
Weighted-average common shares outstanding	33,988	30,940	32,576	29,440
Basic net income (loss) per share	$ (0.56)	$ (0.67)	$ 2.94	$ (1.94)
Diluted net income (loss) per share:				
Net income (loss) applicable to common stockholders	$ (19,202)	$ (20,706)	$ 95,631	$ (57,172)
Shares used in computation:				
Weighted-average common shares outstanding	33,988	30,940	32,576	29,440
Stock options	—	—	3,268	—
Restricted stock units	—	—	31	—
Weighted-average diluted common shares	33,988	30,940	35,875	29,440
Diluted net income (loss) per share	$ (0.56)	$ (0.67)	$ 2.67	$ (1.94)

For periods in which the Company incurred net losses applicable to common stockholders, common stock equivalents are excluded from the calculation of diluted net loss per share as their effect would be anti-dilutive, and accordingly, basic and diluted net loss per share are the same for such periods. Outstanding stock options with exercise prices greater than the average market price of common stock are excluded from the calculation of diluted net income (loss) per share as their effect would be anti-dilutive. The following potentially dilutive common stock equivalents outstanding at the end of the period were excluded from the computations of weighted-average diluted common shares for the periods indicated as their effects would be anti-dilutive (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Stock options issued and outstanding	5,171	5,617	1,128	5,617
Unvested restricted stock units outstanding	40	40	—	40
Employee stock purchase plan	4	12	4	12
	5,215	5,669	1,132	5,669

12. Supplemental Disclosures

Accrued expenses and other current liabilities consists of the following (in thousands):

	September 30, 2018	December 31, 2017
Accrued personnel costs	$ 6,381	$ 5,789
Accrued external research and development expenses	3,136	2,072
Accrued external general and administrative expenses	1,228	1,078
Accrued income taxes payable	1,140	—
Accrued licensing costs	646	—
Accrued purchases of property and equipment	495	430
Other accrued expenses and current liabilities	280	236
	$ 13,306	$ 9,605

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

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with the financial statements and the notes thereto included elsewhere in this Quarterly Report on Form 10-Q and with our audited financial statements and the notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2017, which we filed with the SEC on March 6, 2018. In addition, you should read the "Risk Factors" and "Information Regarding Forward-Looking Statements" sections of this Quarterly Report on Form 10-Q for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

We are a leading clinical-stage biotechnology company seeking to improve lives through the curative potential of gene therapy. Our gene therapy product candidates are designed to deliver genes to cells to address genetic defects or to enable cells in the body to produce therapeutic proteins that are intended to impact disease. Through a single administration, our gene therapy product candidates are designed to provide long-lasting effects, potentially significantly altering the course of disease and delivering improved patient outcomes.

Overview of Product Candidates

We have developed an internal pipeline of product candidates across the therapeutic areas of retinal, metabolic and neurodegenerative diseases.

- **RGX-314:** Our lead product candidate RGX-314 is for the treatment of wet age-related macular degeneration (wet AMD), a leading cause of total and partial vision loss in the United States, Europe and Japan. We began enrollment in the Phase I clinical trial for RGX-314 for the treatment of wet AMD in May 2017 and have completed dosing of four cohorts of six subjects each, a total of 24 subjects. We expect to initiate a Phase II trial in 2019.
- **RGX-121:** We are developing RGX-121 for the treatment of the neurological symptoms of Mucopolysaccharidosis Type II (MPS II), a severe genetic lysosomal storage disease with a similar phenotype to MPS I. MPS II is caused by deficiency of iduronate-2-sulfatase (IDS), an enzyme that is also responsible for breakdown of cellular waste products. We have begun dosing subjects in the Phase I/II clinical trial for RGX-121 and we expect to continue enrollment and site activation in 2019.
- **RGX-501:** We are developing RGX-501 for the treatment of homozygous familial hypercholesterolemia (HoFH), a severe genetic disease characterized by premature and aggressive plaque buildup, life threatening coronary artery disease and aortic valve disease predominantly due to abnormalities in the function or expression of the low-density lipoprotein receptor. Enrollment in the Phase I/II clinical trial for RGX-501 began in March 2017. We have completed dosing of the first cohort of three subjects and have dosed three subjects in the second cohort, a total of six subjects. We expect to amend the clinical trial protocol to enroll additional subjects using steroid prophylaxis.
- **RGX-111:** We are developing RGX-111 for the treatment of the neurological symptoms of Mucopolysaccharidosis Type I (MPS I), a severe genetic lysosomal storage disease caused by deficiency of α-l-iduronidase (IDUA), an enzyme required for breakdown of cellular waste products. The investigational new drug (IND) application filed with the U.S. Food and Drug Administration (the FDA) for RGX-111 for the treatment of MPS I is active, we have submitted an application to the Brazilian Health Surveillance Agency (ANVISA) to proceed with a Phase I clinical trial evaluating RGX-111 for treatment of MPS I and we expect to begin enrollment in a Phase I clinical trial in the first half of 2019.
- **RGX-181:** We are developing RGX-181 for the treatment of late-infantile neuronal ceroid lipofuscinosis type 2 (CLN2) disease, one of the most common forms of Batten disease, caused by mutations in the tripeptidyl peptidase 1 (TPP1) gene. We plan to submit an IND application for RGX-181 for the treatment of CLN2 to the FDA in 2019 to enable initiation of a first-in-human clinical trial.

In addition to our lead product candidates, we have also funded, and plan to continue to fund, preclinical research on potential product candidate programs that may become part of our internal product development pipeline. We have partnered with a number of leading academic institutions and will continue to seek partnerships with innovative institutions to develop novel NAV gene therapy product candidates.

Interim Data Updates for RGX-314

In our Phase I trial for RGX-314, 24 subjects with wet AMD received a single administration of RGX-314 across four cohorts (six participants in each cohort). To qualify for inclusion in the trial, participants were required to have a history of frequent anti-vascular endothelial growth factor (VEGF) treatment (including at least four anti-VEGF injections in the eight months preceding trial enrollment) and a documented history of response to anti-VEGF therapy. The trial design includes doses of 3 x 10^9 (Cohort 1), 1 x 10^10 (Cohort 2), 6 x 10^10 (Cohort 3) and 1.6 x 10^11 (Cohort 4) genome copies (GC)/eye. Subjects have been assessed every month to the six-month primary endpoint, with long-term follow-up continuing for 24 months.

In August 2018, we presented preliminary results from the first three dose cohorts in our Phase I trial of RGX-314 as of July 27, 2018. Below is a summary of those results:

- Subjects had been followed for an average of 11 months for Cohort 1, nine months for Cohort 2 and six months for Cohort 3. Dose-dependent protein expression levels, dose-dependent reduction in anti-VEGF injections and maintenance of central retinal thickness (CRT) by spectral domain optical coherence tomography (SD-OCT) had been reported across all three cohorts. Additionally, through month six, Best Corrected Visual Acuity (BCVA) (as measured by Early Treatment Diabetic Retinopathy Study (ETDRS) letters) from baseline to six months was maintained across all cohorts.
- RGX-314 was well-tolerated by all subjects with no reported drug-related adverse events (AEs) or drug-related serious adverse events (SAEs). The most common AEs in all three dose cohorts were those assessed as mild (Grade 1, 83%) and there had been no observed immune responses, drug-related ocular inflammation or any post-surgical inflammation beyond what was expected following routine vitrectomy. Five SAEs that were not drug-related were reported among three subjects. Three SAEs were attributed to one subject in Cohort 1 and the events were assessed as not related to RGX-314. Five months after the administration of RGX-314, this subject was hospitalized after developing symptoms related to a pre-existing condition that led to the subject's death. One SAE was a procedure-related peripheral retinal detachment that occurred, was repaired with a scleral buckle and resolved without significant sequelae. The other SAE was assessed as mild in severity with no relationship to RGX-314.
- RGX-314 protein expression had been detected in all subjects treated. Dose-dependent increases in RGX-314 protein expression levels, as measured from aqueous samples by electrochemiluminescence immunoassay (ECL) (Protein Levels) at approximately one month after administration of RGX-314, had been observed. Protein Levels at one month after administration of RGX-314 had been highest in Cohort 3.
- The number of anti-VEGF injections required following the administration of RGX-314 through six months was lowest in Cohort 3, where the majority of subjects had required minimal or no anti-VEGF injections. Three subjects from Cohort 3 (50% of subjects treated in Cohort 3) had been free of anti-VEGF injections since the administration of RGX-314. Maintenance of CRT, as measured by SD-OCT, from baseline to six months, had been observed in the three dosing cohorts. BCVA (as measured by Early Treatment Diabetic Retinopathy Study (ETDRS) letters) from baseline to six months was maintained across all cohorts.
- Through six months, the majority of subjects treated in Cohort 3 had required minimal or no anti-VEGF injections, with maintenance of CRT and BCVA assessments showing maintenance or improvements in visual acuity. Through six months, 50% of subjects treated from Cohort 3 were free of anti-VEGF intravitreal injections and had evidence of clinically meaningful measures in mean CRT and mean BCVA at six months versus baseline and generally higher Protein Levels, as measured at one month.

In October 2018, we presented an interim data update that included assessments of Protein Levels at six months after administration of RGX-314 for Cohort 3. Those results showed that RGX-314 Protein Levels were sustained in Cohort 3 at six months.

We plan to initiate a Phase II trial for RGX-314 in 2019. Final determination of the study design is under way.

Interim Data Update for RGX-501

In August 2018, we presented preliminary results of our Phase I/II trial for HoFH. As of July 27, 2018, a total of six subjects with HoFH had received a single administration of RGX-501 across two dose cohorts (three participants in each) at doses of 2.5 x 10^12 (Cohort I) and 7.5 x 10^12 (Cohort II) GC/kg body weight, respectively. Below is a summary of the preliminary results of our Phase I/II trial as of July 27, 2018:

- Subjects had been followed for an average of 63 weeks for Cohort I and 23 weeks for Cohort II. As of July 27, 2018, there had been four SAEs reported during the 52-week active study period, two of which were reported as drug-related. As previously reported in January 2018, one subject in Cohort I experienced a mild transitory activation of the innate immune system accompanied by hypotension and elevation in transaminases approximately 22 hours post dosing that resolved within a day. A second subject in Cohort II experienced transient, asymptomatic elevation in transaminases with a peak ALT of 1469 IU/L. This subject was briefly hospitalized to manage the transaminases and to perform additional assessments. All three subjects in Cohort II experienced an elevation in transaminases 4-6 weeks post-dosing. The peak ALTs were 165, 388, and 1469 IU/L in the three subjects. All three subjects were asymptomatic and responded rapidly to the initiation of prednisone followed by a slow taper, with normalization of the transaminases.
- At 12 weeks, the three subjects in Cohort I did not show a clinically meaningful change in LDL-C levels. We believe that the ability to assess LDL-C levels at 12 weeks in the three subjects in Cohort II may be confounded by the potential effects on the liver and the resulting steroid therapy.

The interim data from both cohorts has been reviewed by an independent Data Safety Monitoring Board (DSMB) and a protocol amendment for RGX-501 is expected to be submitted to regulatory agencies to enroll additional subjects using steroid prophylaxis.

Overview of Our NAV Technology Platform

In addition to our internal product development efforts, we also selectively sublicense our proprietary adeno-associated virus gene therapy delivery platform (NAV Technology Platform) to other leading biotechnology companies, which we refer to as NAV Technology Licensees. As of September 30, 2018, our NAV Technology Platform was being applied in the development of more than 20 partnered product candidates by our NAV Technology Licensees. Sublicensing allows us to maintain our internal product development focus on our core disease indications and therapeutic areas while still expanding the NAV gene therapy pipeline, developing a greater breadth of treatments for patients, providing additional technological and potential clinical proof-of-concept for our NAV Technology Platform, and creating potential additional revenue.

Financial Overview

Revenues

To date, we have primarily generated revenue through our licensing agreements with our NAV Technology Licensees for research, development and commercialization of product candidates using our proprietary technology. We have not generated any revenue from sales of approved products or drug therapies. If we fail to complete the development of our product candidates in a timely manner, or fail to obtain their regulatory approval, our ability to generate future revenue will be materially compromised.

We license our NAV Technology Platform to other biotechnology and pharmaceutical companies. The terms of the licenses vary, and licenses may be exclusive or non-exclusive and may be sublicensable by the licensee. Licenses may grant intellectual property rights for purposes of internal and preclinical research and development only, or may include the rights, or options to obtain future rights, to commercialize drug therapies for specific diseases using the NAV Technology Platform. License agreements generally have a term at least equal to the life of the underlying patents, but are terminable at the option of the licensee. Consideration from licensees under our license agreements may include: (i) up-front fees, (ii) option fees to obtain additional licenses, (iii) annual maintenance fees, (iv) milestone payments based on the achievement of certain development and sales-based milestones by licensees, (v) sublicense fees and (vi) royalties on sales of licensed products. To date we have not recognized any revenue from the achievement of sales-based milestones, royalties on sales of licensed products or sublicense fees.

Future license revenue is highly dependent on the successful development and commercialization of products by our licensees, which is uncertain, and revenue may fluctuate significantly from period to period. Additionally, we may never receive consideration in our license agreements that is contemplated on option fees, development and sales-based milestone payments, royalties on sales of licensed products or sublicense fees, given the contingent nature of these payments.

Effective January 1, 2018, we adopted ASU 2014-09, *Revenue from Contracts with Customers* (Topic 606), which supersedes the revenue recognition requirements in ASC 605, *Revenue Recognition* (Topic 605). We adopted Topic 606 using the modified retrospective transition method and have applied the new standard to all of our license agreements in effect as of January 1, 2018. License revenue for periods ending after January 1, 2018 is presented in accordance with the requirements of Topic 606, while prior period amounts have not been adjusted and continue to be reported in accordance with Topic 605.

Operating Expenses

We classify our expenses into three primary categories: costs of revenue, research and development and general and administrative expenses. Personnel costs including salaries, benefits, bonuses and stock-based compensation expense, comprise a significant component of research and development and general and administrative expenses. We allocate indirect expenses associated with our facilities, information technology costs, depreciation and other overhead costs between research and development and general and administrative categories based on employee headcount and the nature of work performed by each employee.

Costs of Revenue

Costs of revenue consist of sublicense fees to licensors related to the generation of revenue from the licensing of our NAV Technology Platform. Future costs of revenue are uncertain due to the nature of our license agreements and significant fluctuations in costs of revenue may occur from period to period.

Research and Development Expense

Our research and development expense primarily consists of:

- salaries and personnel-related costs, including benefits, stock-based compensation and travel, for our scientific personnel performing research and development activities;
- costs related to executing preclinical studies and clinical trials;
- costs related to acquiring, developing and manufacturing materials for preclinical studies and clinical trials;
- fees paid to consultants and other third-parties who support our product candidate development;
- other costs in seeking regulatory approval of our product candidates; and
- allocated facility-related costs, depreciation expense and other overhead.

Up-front fees incurred in obtaining technology licenses for research and development activities are expensed as incurred if the technology licensed has no alternative future use.

We plan to increase our research and development expenses for the foreseeable future as we continue development of our product candidates. Our current and planned research and development activities include the following:

- a Phase I clinical trial, and a planned Phase II clinical trial, to evaluate the safety and efficacy of our RGX-314 program for the treatment of wet AMD;
- a Phase I/II clinical trial to evaluate the safety and efficacy of our RGX-501 program for the treatment of HoFH;
- a Phase I clinical trial to evaluate the safety and efficacy of our RGX-111 program for the treatment of MPS I;
- a Phase I/II clinical trial to evaluate the safety and efficacy of our RGX-121 program for the treatment of MPS II;
- preclinical research and development for our RGX-181 program for the treatment of CLN2;
- preclinical research and development for additional product candidates addressing other diseases in the retinal, metabolic and neurodegenerative therapeutic areas;
- continued investment in advanced manufacturing analytics and process development activities; and
- continued acquisition and manufacture of clinical trial materials in support of our anticipated clinical trials.

The following table summarizes our research and development expenses incurred during the three and nine months ended September 30, 2018 and 2017 (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Direct Expenses				
RGX-314	$ 1,451	$ 1,255	$ 4,599	$ 4,037
RGX-121	829	527	2,620	5,260
RGX-501	1,065	490	10,103	3,789
RGX-111	209	396	2,361	2,279
RGX-181	2,103	—	2,103	—
Total direct expenses	5,657	2,668	21,786	15,365
Unallocated Expenses				
Unallocated external expenses	2,908	2,463	8,561	7,062
Personnel-related	7,929	6,086	23,709	17,203
Facilities and depreciation expense	1,386	937	3,947	2,552
Other unallocated	628	364	1,541	872
Total unallocated expenses	12,851	9,850	37,758	27,689
Total research and development	$ 18,508	$ 12,518	$ 59,544	$ 43,054

Expenses incurred in the development of RGX-181 were included in unallocated external expenses until the third quarter of 2018. We typically utilize our employee and infrastructure resources across our development programs. We do not allocate personnel and other internal costs, such as facilities and other overhead costs, to specific product candidates or development programs.

General and Administrative Expense

General and administrative expense consists primarily of salaries and personnel-related costs, including employee travel, benefits and stock-based compensation, for employees performing functions other than research and development. This includes personnel in executive, commercial, corporate development, finance, legal, human resources, information technology and administrative support functions. Other general and administrative expenses include facility-related and overhead costs not otherwise allocated to research and development expense, professional fees for accounting, legal and advisory services, expenses associated with obtaining and maintaining patents, insurance costs, costs of our information systems and other commercial and general corporate activities. We expect that our general and administrative expense will continue to increase as we continue to develop, and potentially commercialize, our product candidates.

Other Income

Interest Income from Licensing

In accordance with our revenue recognition policies described below and in Note 2 to the accompanying unaudited financial statements, interest income from licensing consists of imputed interest recognized from significant financing components identified in our license agreements with NAV Technology Licensees.

Investment Income

Investment income consists of interest income earned and gains and losses realized from our cash equivalents and marketable securities. Cash equivalents are comprised of money market mutual funds and highly liquid debt securities with original maturities of 90 days or less at acquisition. Marketable securities are comprised of fixed income debt securities.

Critical Accounting Policies and Significant Judgments and Estimates

This Management's Discussion and Analysis of Financial Condition and Results of Operations is based on our financial statements, which we have prepared in accordance with accounting principles generally accepted in the U.S. The preparation of our financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of our financial statements, as well as the reported revenues and expenses during the reported periods. We evaluate these estimates and assumptions on an ongoing basis. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for

making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Our significant accounting policies and recently announced accounting pronouncements, including the expected impact of such pronouncements, are fully described in Note 2 of the accompanying unaudited financial statements and in Note 2 to our audited financial statements which are included in our Annual Report on Form 10-K for the year ended December 31, 2017. Other than the critical accounting policies discussed below, there have been no significant changes in our critical accounting policies since December 31, 2017.

Revenue Recognition

Effective January 1, 2018, we adopted ASU 2014-09, *Revenue from Contracts with Customers* (Topic 606), which supersedes the revenue recognition requirements in ASC 605, *Revenue Recognition* (Topic 605). Topic 606 requires entities to recognize revenue when control of the promised goods or services is transferred to customers at an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. The following five steps are performed to determine the appropriate revenue recognition for arrangements within the scope of Topic 606: (i) identify the contract(s) with a customer, (ii) identify the performance obligations in the contract, (iii) determine the transaction price, (iv) allocate the transaction price to the performance obligations in the contract and (v) recognize revenue when (or as) the entity satisfies the performance obligations.

We apply the five-step model to contracts that are within the scope of Topic 606 only when it is probable that we will collect the consideration we are entitled to in exchange for the goods or services we transfer to the customer. At contract inception, for contracts within the scope of Topic 606, we assess the goods or services promised within each contract and determined those that are performance obligations and whether each promised good or service is distinct. We then recognize as revenue the amount of the transaction price that is allocated to respective performance obligations when (or as) the respective performance obligations are satisfied.

We evaluate our contracts for the presence of significant financing components. If a significant financing component is identified in a contract and provides a financing benefit to the customer, the transaction price for the contract is adjusted to account for the financing portion of the arrangement, which is recognized as interest income over the financing term using the effective interest method. In determining the appropriate interest rates for significant financing components, we evaluate the credit profile of the customer and prevailing market interest rates and select an interest rate which we believe would be charged to the customer in a separate financing arrangement over a similar financing term.

License revenue

We have determined that all of our license agreements are contracts with customers within the scope of Topic 606. Although licenses are terminable at the option of licensee, we have determined that there is a substantive termination penalty associated with the termination of each license. Due to the substantive termination penalty, the contract term for purposes of applying Topic 606 is equal to the stated term of the license agreement, which is the life of the underlying licensed patents. Performance obligations under our license agreements include the delivery of intellectual property licenses to licensees as well as options granted to licensees to acquire future licenses to the extent the options represent material rights to the licensee. The transaction price for each license agreement is allocated to these performance obligations and recognized as revenue when the performance obligations are satisfied. Consideration allocated to performance obligations for the delivery of intellectual property licenses is recognized as revenue upon the delivery of the license(s) to the licensee, which generally occurs upon the execution of the license agreement. Consideration allocated to performance obligations for license options is recognized as revenue upon the earlier of the option exercise or expiration.

For license agreements which contain options for the licensee to purchase additional licenses in the future, we evaluate the options at the inception of the agreement to determine if they provide a material right to the licensee. In making this determination, we consider whether the optional licenses are priced at a discount to the standalone selling price for the licenses. For options granted which are deemed to be material rights to the licensee, we allocate a portion of the transaction price to the performance obligation for the option and recognize that consideration as revenue at the earlier of option exercise or expiration. Options which are not material rights to licensees are not considered performance obligations and are not accounted for as part of the license agreement until exercised by the licensee. Consideration contingent upon the exercise of options by licensees is excluded from the transaction price and not accounted for as part of the license agreement until the option is exercised. Upon the exercise of an option by a licensee, the additional consideration related to the option exercise is added to the transaction price and recognized as revenue upon the delivery of the newly purchased license.

We evaluate the transaction price for our license agreements at each reporting date. The transaction price for each license includes all fixed consideration, as well as variable consideration to the extent that it is probable that a significant reversal of revenue will not occur in the future. Fixed consideration under our license agreements includes up-front fees and annual maintenance fees.

Variable consideration under our license agreements includes development and sales-based milestone payments, sublicense fees and royalties on sales of licensed products.

Up-front license fees are included in the transaction price and recognized as revenue upon the delivery of the license. If up-front license fees are payable to us in periods beyond 12 months from the delivery of the license, a significant financing component is deemed to exist and we adjust the transaction price to include only the present value of the license fees. The discounted portion of the license fees is recognized as interest income in the consolidated statements of operations over the term of the financing period.

Annual maintenance fees are generally payable to us on each anniversary date over the term of the license agreement. We have determined that the payment of annual maintenance fees by licensees in future periods represents a significant financing component to the license since the delivery of the license occurs at the inception of the agreement. The present value of aggregate annual maintenance fees payable to us over the term of the license is included in the transaction price and recognized as revenue upon the delivery of the license. The discounted portion of the annual maintenance fees is recognized as interest income in the consolidated statements of operations over the term of the license.

Development milestone payments are payable to us upon the achievement of specified development milestones by licensees. At the inception of each license agreement that contains development milestone payments, we evaluate whether the milestones are considered probable of achievement and estimate the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal will not occur in the future, milestone payments are included in the transaction price and recognized as revenue upon the delivery of the license. Milestone payments contingent on the achievement of development milestones that are not within our control or the control of the licensee, such as regulatory approvals, are not considered probable of being achieved and are excluded from the transaction price until the milestone is achieved. At each reporting date, we re-evaluate the probability of achievement of outstanding development milestones and, if necessary, adjust the transaction price for any milestones for which the probability of achievement has changed due to current facts and circumstances. Any such adjustments are recorded on a cumulative catch-up basis and recorded as license revenue in the period of the adjustment.

Royalties on sales of licensed products, sales-based milestone payments and sublicense fees based on the receipt of certain fees by licensees from any sublicensees are excluded from the transaction price for each license and recognized as revenue in the period that the related sales or sublicenses occur, provided that the associated license has been delivered to the licensee. To date we have not recognized any revenue from royalties on sales of licensed products, the achievement of sales-based milestones or sublicense fees.

We receive payments from licensees based on the billing schedules established in each license agreement. Amounts recognized as revenue which have not yet been received from licensees are recorded as accounts receivable when our rights to the consideration are conditional solely upon the passage of time. Amounts recognized as revenue which have not yet been received from licensees are recorded as contract assets when our rights to the consideration are not unconditional. Contract assets are recorded as other current assets on the consolidated balance sheets. If a licensee elects to terminate a license prior to the end of the license term, the licensed intellectual property is returned to us and any consideration recorded as accounts receivable or contract assets which is not contractually payable by the licensee is charged off as a reduction of license revenue in the period of the termination. Amounts received by us prior to the delivery of underlying performance obligations are deferred and recognized as revenue upon the satisfaction of the performance obligations.

Impact of Adoption of Topic 606

We recorded a net reduction in opening accumulated deficit of $4.8 million as of January 1, 2018 for the cumulative impact of adoption of Topic 606, which was primarily the result of accelerated recognition of license revenue due to annual maintenance fees under Topic 606. Under Topic 605, annual maintenance fees payable to us by licensees were recognized as license revenue annually when the amounts became fixed or determinable. Under Topic 606, the present value of aggregate annual maintenance fees over the term of the license agreement are recognized as revenue upon the delivery of the license to the licensee. The impact of the accelerated recognition of license revenue upon adoption was partially offset by the accelerated recognition of licensing costs to our licensors. We recognize sublicense fees in the period the underlying license revenue is recognized.

Stock-based Compensation

Our stock-based compensation expense primarily related to stock options and restricted stock units issued to employees and nonemployee advisors under our equity incentive plans.

Our stock-based awards are subject to either service or performance-based vesting conditions. Compensation expense related to awards to employees and nonemployees with service-based vesting conditions is recognized on a straight-line basis based on the estimated grant date fair value over the associate service period of the award, which is generally the vesting term. Compensation expense related to awards to employees and nonemployees with performance-based vesting conditions is recognized based on the estimated grant date fair value over the requisite service period using the accelerated attribution method to the extent achievement of the performance condition is probable.

Determination of the Fair Value of Stock-based Awards

We estimate the fair value of stock options using the Black-Scholes option-pricing model. The Black-Scholes option-pricing model requires the use of subjective assumptions, including the expected volatility of our common stock, the assumed dividend yield, the expected term of our stock-options, the risk-free interest rate for a period that approximates the expected term of our stock options and the fair value of the underlying common stock on the date of the grant. In applying these assumptions, we consider the following factors:

- Our common stock has only been publicly traded since September 2015 and, accordingly, we do not have sufficient history to estimate the volatility of our common stock. We calculate expected volatility based on reported data for our common stock as well as selected similar publicly traded companies for which sufficient historical information is available. Due the lack of historical trading data for our common stock, we place a higher weight on the historical volatility of the selected peer group in estimating historical volatility. For the purpose of identifying peer companies, we consider characteristics such as enterprise value, risk profiles, position within the industry and length of historical share price information. We focus our peer group company selection on companies that operate within the biotechnology industry, and specifically on companies that use gene therapy, or similar technologies, for treating diseases and/or are focused on treating diseases in our development pipeline or our licensees' pipelines. We ensure that the companies selected have a sufficient trading history to provide meaningful data to estimate the expected volatility of our common stock over the expected term of stock options we have granted. We plan to continue to use the guideline peer group volatility information until the historical volatility of our common stock is sufficient to estimate expected volatility for future option grants.
- The assumed dividend yield of zero is based on our expectation of not paying dividends for the foreseeable future.
- We determine the average expected life of "plain vanilla" stock options issued to employees based on the simplified method in accordance with SEC Staff Accounting Bulletin Nos. 107 and 110, as our common stock has only been publicly traded since September 2015. We expect to use the simplified method to estimate the expected term of stock options granted to employees until we have sufficient historical exercise data to provide a reasonable basis upon which to estimate expected term. For stock options granted to nonemployees, we use the contractual term of the award rather than the expected term to estimate the fair value of the award.
- We determine the risk-free interest rate by reference to implied yields available from U.S. Treasury securities with a remaining term equal to the expected life assumed at the date of grant.

The fair value of our common stock used to determine the exercise price and fair value of stock options and the fair value of restricted stock units is based on the closing price of our common stock on the date of the grant.

On July 1, 2018, we adopted ASU 2018-07, *Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-based Payment Accounting*. Prior to the adoption of this standard, compensation expense for our stock-based awards to nonemployees was based on the then-current fair value of the awards at each reporting date prior to the measurement date, which is generally the vesting date. Upon the adoption of ASU 2018-07, these awards will no longer be remeasured and any new stock-based awards granted to nonemployees after the adoption of the new standard will be measured at the estimated grant date fair value of the awards.

Results of Operations

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2018	2017	Change	2018	2017	Change
	(in thousands)					
Revenues						
License revenue	$ 5,306	$ 1,335	$ 3,971	$ 177,728	$ 8,345	$ 169,383
Other revenues	—	1	(1)	—	8	(8)
Total revenues	5,306	1,336	3,970	177,728	8,353	169,375
Expenses						
Costs of revenues						
Licensing costs	517	683	(166)	6,797	2,085	4,712
Other	—	—	—	—	6	(6)
Research and development	18,508	12,518	5,990	59,544	43,054	16,490
General and administrative	9,008	9,444	(436)	25,706	22,421	3,285
Other operating expenses (income)	(2)	—	(2)	31	74	(43)
Total operating expenses	28,031	22,645	5,386	92,078	67,640	24,438
Income (loss) from operations	(22,725)	(21,309)	(1,416)	85,650	(59,287)	144,937
Other Income						
Interest income from licensing	109	—	109	8,362	—	8,362
Investment income	2,122	603	1,519	4,177	2,115	2,062
Total other income	2,231	603	1,628	12,539	2,115	10,424
Income (loss) before income taxes	(20,494)	(20,706)	212	98,189	(57,172)	155,361
Income Tax Benefit (Expense)	1,292	—	1,292	(2,558)	—	(2,558)
Net income (loss)	$ (19,202)	$ (20,706)	$ 1,504	$ 95,631	$ (57,172)	$ 152,803

Comparison of the Three Months Ended September 30, 2018 and 2017

License Revenue. License revenue increased by $4.0 million, from $1.3 million for the three months ended September 30, 2017 to $5.3 million for the three months ended September 30, 2018. This increase is primarily attributable to $4.0 million of license revenue recognized during the three months ended September 30, 2018 for milestones achieved or deemed probable of achievement by licensees, which were previously not considered probable of achievement.

Research and Development Expense. Research and development expenses increased by $6.0 million, from $12.5 million for the three months ended September 30, 2017 to $18.5 million for the three months ended September 30, 2018. This increase is primarily attributable to the following:

- an increase of $1.8 million for personnel costs as a result of increased employee headcount of research and development personnel, including a $0.5 million increase in stock-based compensation expense;
- an increase of $1.7 million for laboratory costs and facilities and equipment used by research and development personnel, including a $0.2 million increase in depreciation expense allocated to research and development functions;
- an increase of $1.5 million for externally sourced manufacturing-related and process development services; and
- an increase of $0.4 million for external costs associated with clinical trial activities for our lead product candidates.

General and Administrative Expense. General and administrative expenses decreased by $0.4 million, from $9.4 million for the three months ended September 30, 2017 to $9.0 million for the three months ended September 30, 2018. This decrease is primarily attributable to a decrease of $2.1 million for professional services, including legal, accounting, commercial and other advisory services. A significant portion of this decrease resulted from non-recurring expenses incurred during the three months ended September 2017 associated with the proposed merger with Dimension Therapeutics, Inc. The decrease in general administrative expenses was partially offset by an increase of $1.5 million for personnel costs as a result of increased employee headcount of general and administrative personnel, including a $1.2 million increase in stock-based compensation expense.

Comparison of the Nine Months Ended September 30, 2018 and 2017

License Revenue. License revenue increased by $169.4 million, from $8.3 million for the nine months ended September 30, 2017 to $177.7 million for the nine months ended September 30, 2018. This increase is primarily attributable to $176.1 million of license revenue recognized during the nine months ended September 30, 2018 under our amended March 2014 license agreement with AveXis, Inc. (AveXis). The increase in license revenue during the nine months ended September 30, 2018 also resulted in a $4.7 million increase in licensing costs incurred during the period related to the sublicense fees we are obligated to pay to our licensors.

Research and Development Expense. Research and development expenses increased by $16.5 million, from $43.1 million for the nine months ended September 30, 2017 to $59.5 million for the nine months ended September 30, 2018. This increase is primarily attributable to the following:

- an increase of $6.5 million for personnel costs as a result of increased employee headcount of research and development personnel, including a $1.6 million increase in stock-based compensation expense;
- an increase of $4.1 million for laboratory costs and facilities and equipment used by research and development personnel, including a $0.7 million increase in depreciation expense allocated to research and development functions;
- an increase of $3.0 million for external costs associated with clinical trial activities for our lead product candidates; and
- an increase of $2.3 million for externally sourced manufacturing-related and process development services.

General and Administrative Expense. General and administrative expenses increased by $3.3 million, from $22.4 million for the nine months ended September 30, 2017 to $25.7 million for the nine months ended September 30, 2018. This increase is primarily attributable to an increase of $2.9 million for personnel costs as a result of increased employee headcount of general and administrative personnel, including a $2.4 million increase in stock-based compensation expense.

Interest Income from Licensing. Interest income from licensing increased by $8.4 million, from $0 for the nine months ended September 30, 2017. In January 2018, we adopted new revenue recognition standards under Topic 606, the requirements of which have not been retrospectively applied to prior periods. Under Topic 606, we impute and recognize interest income related to significant financing components identified in our license agreements with NAV Technology Licensees. During the nine months ended September 30, 2018, we recognized $8.0 million of interest income under our amended license with AveXis.

Liquidity and Capital Resources

As of September 30, 2018, we had cash, cash equivalents and marketable securities of $474.9 million, which were primarily derived from the sale of common stock and fees received from granting commercial licenses to our NAV Technology Platform to other biotechnology and pharmaceutical companies, including $180.0 million received from AveXis during the nine months ended September 30, 2018. We expect that our cash, cash equivalents and marketable securities as of September 30, 2018, will enable us to fund our operating expenses and capital expenditure requirements for at least the next 12 months from the date of this report, based on our current business plan.

In January 2018, we amended our March 2014 license agreement with AveXis which modified its terms and conditions and provided additional intellectual property rights to AveXis. In consideration for the additional rights granted under the amended license agreement, AveXis paid us $80.0 million upon the effective date of the amendment. In addition, AveXis was obligated to pay us (i) $30.0 million on the first anniversary of the effective date of the January 2018 Amendment, (ii) $30.0 million on the second anniversary of the effective date of the January 2018 Amendment and (iii) potential sales-based milestone payments of up to $120.0 million. In the event of a change of control of AveXis, to the extent that any fee described in (i) or (ii) above, or the first $40.0 million of milestone payments described in (iii) above, had not yet been paid to us, AveXis was obligated to pay any such unpaid fee to us upon the change of control. In May 2018, AveXis was acquired by Novartis AG, which qualified as a change of control of AveXis under the January 2018 Amendment. Pursuant to the amended license, AveXis paid us $100.0 million in accelerated license payments following the change of control.

In August 2018, we completed a follow-on public offering of 3,105,000 shares of our common stock (inclusive of 405,000 shares pursuant to the full exercise by the underwriters of their option to purchase additional shares) at a price of $65.00 per share. The aggregate net proceeds we received from the offering, inclusive of the underwriters' option exercise, were $189.1 million, net of underwriting discounts and commissions and offering expenses payable by us.

We have incurred cumulative losses since our inception and had an accumulated deficit of $87.3 million as of September 30, 2018. Our transition to recurring profitability is dependent upon the successful development, approval and commercialization of our product candidates and achieving a level of revenues adequate to support our cost structure. We do not expect to achieve such revenues, and expect to continue to incur losses, for at least the next several years. We expect that our research and development and general and administrative expenses will continue to increase for the foreseeable future. As a result, we will need significant additional capital to fund our operations, which we may obtain through one or more equity offerings, debt financings or other third-party funding, including potential strategic alliances and licensing or collaboration arrangements.

Cash Flows

	Nine Months Ended September 30,	
	2018	2017
	(in thousands)	
Net cash provided by (used in) operating activities	$ 108,788	$ (44,166)
Net cash used in investing activities	(212,176)	(3,647)
Net cash provided by financing activities	199,155	82,857
Net increase in cash and cash equivalents and restricted cash	$ 95,767	$ 35,044

Operating Activities

Our net cash provided by operating activities for the nine months ended September 30, 2018 increased by $153.0 million from the nine months ended September 30, 2017. This increase is primarily attributable to $180.0 million in license payments received by us during the nine months ended September 30, 2018 under our amended March 2014 license agreement with AveXis, and is partially offset by an increase in operating expenses during the period.

For the nine months ended September 30, 2018, our net cash provided by operating activities of $108.8 million consisted of net income of $95.6 million, $7.0 million in adjustments for non-cash items and changes in working capital of $6.2 million. Adjustments for non-cash items primarily consisted of stock-based compensation expenses of $11.8 million, depreciation and amortization expense of $2.7 million and net amortization of premiums on marketable debt securities of $0.9 million and were partially offset by imputed interest earned from our license agreements of $8.4 million. The change in working capital was primarily attributable to a decrease in accounts receivable of $7.0 million and an increase in accrued expenses and other current liabilities of $3.4 million, and was partially offset by an increase in prepaid expenses and other current assets of $4.0 million. The decrease in accounts receivable is largely driven by the imputed interest recognized upon the acceleration of license payments under our amended license agreement with AveXis. The increase in accrued expenses and other current liabilities is largely driven by increases in accrued external research and development expenses and income taxes payable as of September 30, 2018. The increase in prepaid expenses and other current assets is largely driven by an increase in license revenue recorded as contract assets as of September 30, 2018 for development milestones considered probable of achievement by licensees, as well as an increase in the amounts we were billed by vendors during the period which are applicable to future periods of performance.

For the nine months ended September 30, 2017, our net cash used in operating activities of $44.2 million consisted of a net loss of $57.2 million, offset by $10.3 million in adjustments for non-cash items and changes in working capital of $2.7 million. Adjustments for non-cash items primarily consisted of stock-based compensation expenses of $7.8 million, depreciation and amortization expense of $2.0 million and net amortization of premiums on marketable debt securities of $1.4 million. The change in working capital was primarily attributable to an increase in accounts payable and accrued expenses and other current liabilities of $4.6 million, partially offset by an increase in prepaid expenses and other current assets of $1.8 million.

Investing Activities

For the nine months ended September 30, 2018, net cash used in investing activities consisted of $319.9 million to purchase marketable securities and $8.4 million to purchase property and equipment, offset by $116.1 million in sales and maturities of marketable securities.

For the nine months ended September 30, 2017, net cash used in investing activities consisted of $46.6 million to purchase marketable securities and $5.1 million to purchase property and equipment, offset by $48.0 million in sales and maturities of marketable securities.

Financing Activities

For the nine months ended September 30, 2018, net cash provided by financing activities consisted of $189.3 million in aggregate net proceeds from a follow-on public offering of our common stock, net of underwriting discounts and commissions and additional offering expenses we paid during the period, and $9.9 million in proceeds received from the exercise of stock options and issuance of common stock under our employee stock purchase plan.

For the nine months ended September 30, 2017, net cash provided by financing activities consisted of $81.5 million in aggregate net proceeds from a follow-on public offering of our common stock, net of underwriting discounts and commissions and offering expenses we paid during the period, and $1.3 million in proceeds received from the exercise of stock options and issuance of common stock under our employee stock purchase plan.

Future Funding Requirements

To date, we have primarily generated revenue through license agreements with strategic partners for research, development and commercialization of product candidates using our proprietary technology. We do not expect to generate significant recurring revenue unless and until we obtain regulatory approval for and commercialize our product candidates. In addition, we expect our expenses to increase in connection with our ongoing development activities, particularly as we continue to expand the research, development and clinical trials of, and seek regulatory approval for, our product candidates. In addition, subject to obtaining regulatory approval for our product candidates, we expect to incur significant commercialization expenses for product sales, marketing, manufacturing and distribution. We anticipate that we will need substantial additional funding in connection with our continuing operations.

We expect that our cash, cash equivalents and marketable securities as of September 30, 2018 will enable us to fund our operating expenses and capital expenditure requirements for at least the next 12 months from the date of this report, based on our current business plan. We intend to devote the majority of our current capital to clinical development and regulatory approval of our product candidates. Because of the numerous risks and uncertainties associated with the development and commercialization of gene therapy product candidates, we are unable to estimate the amount of increased capital outlays and operating expenditures necessary to complete the development of product candidates. Additionally, our estimates are based on assumptions that may prove to be wrong, and we may use our available capital resources sooner than we currently expect.

Our future capital requirements will depend on many factors, including:

- the timing of enrollment, commencement and completion of our clinical trials;
- the results of our clinical trials;
- the results of our preclinical studies for our product candidates and any subsequent clinical trials;
- our planned expansion of the licensing of our NAV Technology Platform;
- the scope, progress, results and costs of drug discovery, laboratory testing, preclinical development and clinical trials for our product candidates;
- the costs associated with building out additional laboratory and manufacturing capacity, if any;
- the costs, timing and outcome of regulatory review of our product candidates;
- the costs of future product sales, medical affairs, marketing, manufacturing and distribution activities for any of our product candidates for which we receive marketing approval;
- revenue, if any, received from commercial sale of our products, should any of our product candidates receive marketing approval;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;
- our current licensing agreements or collaborations remaining in effect;
- our ability to establish and maintain additional licensing agreements or collaborations on favorable terms, if at all;
- the extent to which we acquire or in-license other product candidates and technologies; and
- the costs associated with being a public company.

Many of these factors are outside of our control. Identifying potential product candidates and conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain regulatory and marketing approval and achieve product sales. In addition, our product candidates, if approved, may not achieve commercial success. Our product revenues, if any, and any commercial milestones or royalty payments under our licensing agreements, will be derived from or based on sales of products that may not be commercially available for many years, if at all. In addition, revenue from our NAV Technology Platform sublicensing is dependent in part on the clinical and commercial success of our licensing partners, and no products have been commercialized by us or our NAV Technology Licensees using our NAV Technology Platform to date. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives.

To the extent that additional capital is raised through the sale of equity or equity-linked securities, the issuance of those securities could result in substantial dilution for our current stockholders and the terms may include liquidation or other preferences that adversely affect the rights of our current stockholders. Furthermore, the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our common stock to decline. Adequate additional financing may not be available to us on acceptable terms, or at all. We also could be required to seek funds through arrangements with partners or otherwise that may require us to relinquish rights to our intellectual property, our product candidates or otherwise agree to terms unfavorable to us.

Contractual Obligations, Commitments and Contingencies

There have been no material changes to our contractual obligations, commitments and contingencies from the information provided in Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” included in our Annual Report on Form 10-K for the year ended December 31, 2017.

Off-Balance Sheet Arrangements

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

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

For additional information regarding market risk, refer to Item 7A, “Quantitative and Qualitative Disclosures About Market Risk,” included in our most recent Annual Report on Form 10-K for the year ended December 31, 2017. There have been no material changes to our exposure to market risk during the nine months ended September 30, 2018.

Item 4. Controls and Procedures.

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2018. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of September 30, 2018, our disclosure controls and procedures were effective at a reasonable assurance level.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the quarter ended September 30, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on the Effectiveness of Controls

Control systems, no matter how well conceived and operated, are designed to provide a reasonable, but not an absolute, level of assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. Because of the inherent limitations in any control system, misstatements due to error or fraud may occur and not be detected.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings.

From time to time, we are party to various lawsuits, claims or other legal proceedings that arise in the normal course of our business. We do not believe that we are currently party to any pending legal actions that could reasonably be expected to have a material adverse effect on our business, financial condition, results of operations or cash flows.

Item 1A. Risk Factors.

You should carefully consider the risk factors set forth below as well as the other information contained in this Quarterly Report on Form 10-Q and in our other public filings in evaluating our business, including our Annual Report on Form 10-K for the year ended December 31, 2017, which we filed with the SEC on March 6, 2018. Any of the following risks could materially and adversely affect our business, financial condition or results of operations. In addition, these risks could cause actual results and developments to differ materially and adversely from those projected in the forward-looking statements contained in this Quarterly Report on Form 10-Q (please read the Information Regarding Forward-Looking Statements appearing at the beginning of this Form 10-Q). The risks described below are not the only risks facing us. Additional risks and uncertainties not currently known to us or that we currently view to be immaterial may also materially adversely affect our business, financial condition or results of operations. In these circumstances, the market price of our common stock would likely decline and you could lose all or part of your investment.

Risks Related to our NAV Technology Platform and the Development of Our Product Candidates

Our gene therapy product candidates are based on a novel technology that makes it difficult to predict the time and cost of development and of subsequently obtaining regulatory approval. Only a few gene therapy products have been approved in the United States, the European Union or elsewhere.

We have concentrated our research and development efforts on our proprietary adeno-associated virus (AAV) gene delivery platform (our NAV Technology Platform), and our future success depends on our and our licensees' successful development and commercialization of viable gene therapy product candidates. There can be no assurance that we or our licensees will not experience problems or delays in developing current or future product candidates or that such problems or delays will not cause unanticipated costs, or that any such development problems can be solved. We also may experience unanticipated problems or delays in expanding our manufacturing capacity, and this may prevent us from completing our clinical trials, meeting the obligations of our collaborations or commercializing our products on a timely or profitable basis, if at all. For example, we, a partner or another group may uncover one or more previously unknown risks associated with AAV or our NAV Technology Platform, and this may prolong the period of observation required for obtaining regulatory approval, necessitate additional clinical testing or invalidate our NAV Technology.

In addition, the clinical trial requirements of the U.S. Food and Drug Administration (the FDA), the European Medicines Agency (the EMA) and other regulatory authorities and the criteria these regulators use to determine the quality, safety and efficacy of a product candidate vary substantially according to the type, complexity, novelty and intended use and market of such product candidates. The regulatory approval process for novel product candidates such as ours can be significantly more expensive and take longer than for other, better known or more extensively studied product candidates. Only a few gene therapy products have been approved in the United States, the European Union or elsewhere. It is difficult to determine how long it will take or how much it will cost to obtain regulatory approvals for our product candidates in the United States, the European Union or elsewhere, or how long it will take to commercialize our product candidates. Furthermore, approvals by one regulatory authority may not be indicative of what other regulatory authorities may require for approval, and approvals of *ex vivo* gene therapy products may not be indicative of what may be required for approval of *in vivo* gene therapy products.

Regulatory requirements governing gene and cell therapy products have changed frequently and may continue to change in the future. The FDA has established the Office of Cellular, Tissue and Gene Therapies within its Center for Biologics Evaluation and Research (CBER), to consolidate the review of gene therapy and related products, and has established the Cellular, Tissue and Gene Therapies Advisory Committee to advise CBER in its review. Gene therapy clinical trials conducted at institutions that receive funding for recombinant DNA research from the U.S. National Institutes of Health (NIH), also are potentially subject to review by the NIH Office of Biotechnology Activities' Recombinant DNA Advisory Committee (the RAC). However, according to NIH, the RAC will only publicly review clinical trials if the trials cannot be evaluated by standard oversight bodies and pose unusual risks. Although the FDA decides whether individual gene therapy protocols may proceed, the RAC public review process, if undertaken, can delay the initiation of a clinical trial, even if the FDA has reviewed the trial design and details and approved its initiation. Conversely, the FDA can put an investigational new drug application (IND) on a clinical hold even if the RAC has provided a favorable review or an exemption from in-depth, public review. NIH has proposed changes to the NIH guidelines which would limit the roles and responsibilities of the RAC. If we were to engage an NIH-funded institution to conduct a clinical trial, that institution's institutional biosafety committee as well as its institutional review board (IRB) would need to review the proposed clinical trial to assess the safety of the trial. In addition, adverse developments in preclinical studies or clinical trials of gene therapy products conducted by others may cause the FDA or other oversight bodies to change the requirements for approval of any of our product candidates.

In the European Union, the EMA's Committee for Advanced Therapies (CAT) is responsible for assessing the quality, safety and efficacy of advanced therapy medicinal products. The role of the CAT is to prepare a draft opinion on an application for marketing authorization for a gene therapy medicinal candidate that is submitted to the EMA. The development and evaluation of a gene therapy medicinal product must be considered in the context of the relevant European Union guidelines, and we may be required to comply with new guidelines concerning the development and marketing authorization for gene therapy medicinal products.

Additionally, we may seek regulatory approval in territories outside the United States and the European Union, which may have their own regulatory authorities along with frequently changing requirements or guidelines. The regulatory review committees and advisory groups in the United States, the European Union and elsewhere, and any new guidelines they promulgate, may lengthen the regulatory review process, require us to perform additional studies, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of our product candidates or lead to significant post-approval limitations or restrictions. As we advance our product candidates, we will be required to consult with these regulatory and advisory groups, and comply with applicable guidelines. If we fail to do so, we may be required to delay or discontinue development of certain of our product candidates. These additional processes may result in a review and approval process that is longer than we otherwise would have expected. Delay or failure to obtain, or unexpected costs in obtaining, the regulatory approval necessary to bring a potential product to market could decrease our ability to generate product revenue, and our business, financial condition, results of operations and prospects would be materially harmed.

Our business depends substantially on the success of our lead product candidates. If we are unable to obtain regulatory approval for, or successfully commercialize, our lead product candidates, our business will be materially harmed.

Our lead product candidates are in the early stages of development and will require substantial clinical development and testing, manufacturing bridging studies and process validation and regulatory approval prior to commercialization. Successful continued development and ultimate regulatory approval of our lead product candidates is critical for our future business success and our ability to generate product revenue. We have invested, and will continue to invest, a significant portion of our financial resources in the development of our lead product candidates. We will need to raise sufficient funds for, and successfully complete, our clinical trials of our lead product candidates in appropriate subjects. The future regulatory and commercial success of these product candidates is subject to a number of risks, including the following:

- we may not have sufficient financial and other resources or patient availability to complete the necessary clinical trials for our lead product candidates;
- we may not be able to provide evidence of quality, efficacy and safety for our lead product candidates;
- we do not know the degree to which our lead product candidates will be accepted by patients, the medical community and third-party payors as a therapy for the respective diseases to which they relate, even if approved;
- the results of our clinical trials may not meet the level of statistical or clinical significance required by the FDA, EMA or comparable foreign regulatory bodies for marketing approval, and modifications to the design of our clinical trials could delay their enrollment, commencement or completion;
- subjects in our clinical trials may die or suffer other adverse effects for reasons that may or may not be related to our lead product candidates;
- subjects in clinical trials undertaken by licensees under a license we grant of certain intellectual property related to our NAV Technology Platform (our NAV Technology Licensees), or undertaken by others using AAV, may die or suffer other adverse effects for reasons that may or may not be related to our NAV Technology Platform or AAV;
- certain patients' immune systems might prohibit the successful delivery of certain gene therapy products to the target tissue, thereby limiting the treatment outcomes;
- we may not successfully establish commercial manufacturing capabilities;
- if approved for treatment of the expected conditions, our lead product candidates will likely compete with other treatments then available, including the off-label use of products already approved for marketing and other therapies currently available or which may be developed;
- our products and products developed by our NAV Technology Licensees, if any, may not maintain a continued acceptable safety profile following regulatory approval;
- we may not maintain compliance with post-approval regulation and other requirements; and
- we may not be able to obtain, maintain or enforce our rights under our licensed patents and other intellectual property rights.

Of the large number of biologics and drugs in development in the biopharmaceutical industry, only a small percentage result in the submission of a Biologics License Application (BLA) to the FDA or marketing authorization application (MAA) to the EMA and even fewer are approved for commercialization. Furthermore, even if we do receive regulatory approval to market our lead product candidates, any such approval may be subject to limitations on the indicated uses for which we may market the product. Accordingly, even if we are able to obtain the requisite financing to continue to fund our development programs, we cannot assure you that our lead product candidates will be successfully developed or commercialized. If we or any of our future development partners are unable to develop, or obtain regulatory approval for, or, if approved, successfully commercialize, our lead product candidates, we may not be able to generate sufficient revenue to continue our business.

We may not be successful in our efforts to identify or discover additional product candidates.

The success of our business depends in large part upon our ability to identify, develop and commercialize products based on our NAV Technology Platform. RGX-111, RGX-121, RGX-314 and RGX-501 are our only clinical programs and our research programs may fail to identify other potential product candidates for clinical development for a number of reasons. Our research methodology may be unsuccessful in identifying potential product candidates or our potential product candidates may be shown to have harmful side effects or may have other characteristics that may make the products unmarketable or unlikely to receive marketing approval.

If any of these events occur, we may be forced to abandon our development efforts for a program or for multiple programs, which would materially harm our business and could potentially cause us to cease operations. Research programs to identify new product candidates require substantial technical, financial and human resources. We may focus our efforts and resources on potential programs or product candidates that ultimately prove to be unsuccessful.

We have limited clinical results for our product candidates.

Gene therapy development has inherent risks. Our lead product candidates have limited clinical and preclinical results and we may experience unexpected results in the future. We or any of our future development partners will be required to demonstrate through adequate and well-controlled clinical trials that our product candidates containing our proprietary vectors are safe and effective, with a favorable benefit-risk profile, for use in their target indications before we can seek regulatory approvals for their commercial sale. Drug development is a long, expensive and uncertain process, and delay or failure can occur at any stage of development, including after commencement of any of our clinical trials.

The results of preclinical studies and early clinical trials are not always predictive of future results. Any product candidate we or any of our future development partners advance into clinical trials, including our lead product candidates, may not have favorable results in later clinical trials, if any, or receive regulatory approval. There is a high failure rate for drugs and biologic products proceeding through clinical trials. Data obtained from preclinical and clinical activities are subject to varying interpretations that may delay, limit or prevent regulatory approval. In addition, we may experience regulatory delays or rejections as a result of many factors, including due to changes in regulatory policy during the period of our product candidate development. Any such delays could materially harm our business, financial condition, results of operations and prospects.

If our NAV vectors are not shown to be safe and effective, we may not realize the value of our investment in our technology. In addition, success in early clinical trials does not mean that later clinical trials will be successful, because product candidates in later-stage clinical trials may fail to demonstrate sufficient safety or efficacy despite having progressed through initial clinical testing. Furthermore, our future trials will need to demonstrate sufficient safety and efficacy for approval by regulatory authorities in larger patient populations. Companies frequently suffer significant setbacks in advanced clinical trials, even after earlier clinical trials have shown promising results. In addition, only a small percentage of drugs under development result in the submission of a BLA to the FDA or MAA to the EMA and even fewer are approved for commercialization.

We cannot be certain that any of our current or planned clinical trials will be successful, and any safety concerns observed in any one of our current or planned clinical trials in our targeted indications could limit the prospects for regulatory approval of our product candidates in those and other indications. In addition, failure of one or more of our viral vectors, whether in our product candidates or those of our licensees, would impact the licensing of our NAV Technology Platform. Any such failure could materially harm our business, financial condition, results of operations and prospects.

Because we are developing product candidates for the treatment of certain diseases in which there is little clinical experience and we are using new endpoints or methodologies, there is increased risk that the FDA, the EMA or other regulatory authorities may not consider the endpoints of our clinical trials to provide clinically meaningful results and that these results may be difficult to analyze.

During the FDA review process, we will need to identify success criteria and endpoints such that the FDA will be able to determine the clinical efficacy and safety profile of our product candidates. As we are developing novel treatments for diseases in which there is little clinical experience with new endpoints and methodologies, there is heightened risk that the FDA, the EMA or other regulatory bodies may not consider the clinical trial endpoints to provide clinically meaningful results (reflecting a tangible benefit to patients). In addition, the resulting clinical data and results may be difficult to analyze. Even if the FDA does find our success criteria to be sufficiently validated and clinically meaningful, we may not achieve the pre-specified endpoints to a degree of statistical significance. Further, even if we do achieve the pre-specified criteria, we may produce results that are unpredictable or inconsistent with the results of the non-primary endpoints or other relevant data. The FDA also weighs the benefits of a product against its risks, and the FDA may view the efficacy results in the context of safety as not being supportive of regulatory approval. The EMA and other regulatory authorities in the European Union and other countries may make similar comments with respect to these endpoints and data.

The results from our preclinical studies or clinical trials for our product candidates may not support as broad a marketing approval as we seek, and the FDA, the EMA or other regulatory authorities may require us to conduct additional clinical trials or evaluate subjects for an additional follow-up period.

While we believe our product candidates should be applicable for the treatment of patients with certain conditions, the results from our preclinical and planned clinical trials may not support as broad of a marketing approval as we seek. Even if we obtain regulatory approval for our product candidates, we may be required by the FDA, the EMA or other regulatory bodies to conduct additional clinical trials to support approval of our product candidates for patients diagnosed with different mutations of the respective diseases to which our product candidates relate. This could result in our experiencing significant increases in costs and substantial delays in obtaining, or never obtaining, marketing approval for our product candidates to treat patients. The inability to market our product candidates to treat patients for the intended indications would materially harm our business, financial condition, results of operations and prospects.

We may find it difficult to enroll patients in clinical trials, and this could delay or prevent us from proceeding with clinical trials of our product candidates.

Identifying and qualifying patients to participate in clinical trials of our product candidates is critical to our success. The timing of our clinical trials depends on our ability to recruit patients to participate as well as completion of required follow-up periods. If patients are unwilling to participate in our gene therapy studies because of negative publicity from adverse events related to the biotechnology or gene therapy fields, competitive clinical trials for similar patient populations, clinical trials in products employing our vectors or our platform, the need and length of time required to discontinue other treatment or for other reasons, the timeline for recruiting patients, conducting studies and obtaining regulatory approval of our product candidates may be delayed, perhaps significantly. For example, due to the novel mechanism of our product candidates, we may implement a screening and clinical protocol that is innovative for gene therapy clinical trials, including requiring the discontinuation of some current therapies for a certain period of time before treatment administration. These delays could result in increased costs, delays in advancing our product candidates, delays in testing the effectiveness of our product candidates or termination of the clinical trials altogether.

We may not be able to identify, recruit and enroll a sufficient number of patients, or those with required or desired characteristics, to complete our planned clinical trials in a timely manner. Patient enrollment and trial completion is affected by factors including:

- size of the patient population and process for identifying subjects;
- design of the trial protocol;
- eligibility and exclusion criteria;
- perceived risks and benefits of the product candidate under study;
- perceived risks and benefits of gene therapy-based approaches to treatment of diseases;
- availability of competing therapies and clinical trials;
- severity of the disease under investigation;

- need and length of time required to discontinue other potential treatment options;
- availability of genetic testing for potential patients;
- proximity and availability of clinical trial sites for prospective subjects;
- ability to obtain and maintain subject consent;
- risk that enrolled subjects will drop out before completion of the trial;
- patient referral practices of physicians; and
- ability to monitor subjects adequately during and after treatment.

Our current product candidates are being developed to treat a variety of conditions, many of which are rare. We plan to seek marketing approvals worldwide. We may not be able to initiate or continue clinical trials if we cannot enroll a sufficient number of eligible patients to participate in the clinical trials required by the FDA, the EMA or other regulatory authorities. Our ability to successfully initiate, enroll and complete a clinical trial in any foreign country is subject to numerous risks unique to conducting business in foreign countries, including:

- difficulty in establishing or managing relationships with contract research organizations (CROs) and physicians;
- different standards for the conduct of clinical trials;
- absence in some countries of established groups with sufficient regulatory expertise for review of gene therapy protocols;
- our inability to locate qualified local consultants, physicians and partners; and
- the potential burden of complying with a variety of foreign laws, medical standards and regulatory requirements, including the regulation of pharmaceutical and biotechnology products and treatments.

If we have difficulty enrolling a sufficient number of patients to conduct our clinical trials as planned, we may need to delay, limit or terminate then ongoing or planned clinical trials, any of which would harm our business, financial condition, results of operations and prospects.

We may encounter substantial delays in our planned clinical trials, or we may fail to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities.

Before obtaining marketing approval from regulatory authorities for the sale of our product candidates, we must conduct extensive clinical trials to demonstrate the safety and efficacy of the product candidates. Clinical testing is expensive, time-consuming and uncertain as to outcome. We cannot guarantee that any clinical trials will be conducted as planned or completed on schedule, if at all. A failure of one or more clinical trials can occur at any stage of testing. Events that may prevent successful or timely commencement and completion of preclinical and clinical development include:

- delays in reaching a consensus with regulatory authorities on trial design;
- delays in reaching agreement on acceptable terms with prospective CROs and clinical trial sites;
- delays in opening clinical trial sites or obtaining required IRB or independent Ethics Committee approval at each clinical trial site;
- delays in recruiting suitable subjects to participate in our clinical trials;
- imposition of a clinical hold by regulatory authorities, including as a result of a serious adverse event or after an inspection of our clinical trial operations or trial sites;
- failure by us, any CROs we engage or any other third parties to adhere to clinical trial requirements;
- failure to perform in accordance with the FDA good clinical practice (GCP), or applicable regulatory guidelines in the European Union and other countries;
- delays in the testing, validation, manufacturing and delivery of our product candidates to the clinical sites, including delays by third parties with whom we have contracted to perform certain of those functions;
- delays in having subjects complete participation in a trial or return for post-treatment follow-up;
- clinical trial sites or subjects dropping out of a trial;

- selection of clinical endpoints that require prolonged periods of clinical observation or analysis of the resulting data;
- occurrence of serious adverse events associated with the product candidate that are viewed to outweigh its potential benefits;
- occurrence of serious adverse events in trials of the same class of agents conducted by other sponsors; or
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols.

Any inability to successfully complete research studies, preclinical and clinical development could result in additional costs to us or impair our ability to generate revenues from product sales, regulatory and commercialization milestones and royalties. In addition, if we make manufacturing or formulation changes to our product candidates, we may need to conduct additional studies to bridge our modified product candidates to earlier versions. Clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do, which could impair our ability to successfully commercialize our product candidates and may harm our business, financial condition, results of operations and prospects.

Additionally, if the results of our planned clinical trials are inconclusive or if there are safety concerns or serious adverse events associated with our product candidates, we may:

- be delayed in obtaining marketing approval for our 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 changes in the way the product is administered;
- be required to perform additional clinical trials to support approval or be subject to additional post-marketing testing or other requirements;
- have regulatory authorities withdraw, vary or suspend their approval of the product or impose restrictions on its distribution in the form of a modified risk evaluation and mitigation strategy;
- be subject to the addition of labeling statements, such as warnings or contraindications;
- be sued; or
- experience damage to our reputation.

Success in preclinical studies or early clinical trials may not be indicative of results obtained in later trials.

Results from preclinical studies or early stage clinical trials are not necessarily predictive of future clinical trial results, and interim results of a clinical trial are not necessarily indicative of final results. Our product candidates and our NAV Technology Licensees' product candidates may fail to show the desired safety and efficacy in clinical development despite positive results in preclinical studies or having successfully advanced through initial clinical trials. The clinical trial process may fail to demonstrate that any of our product candidates or our NAV Technology Licensees' product candidates are safe for humans and effective for indicated uses. This failure may cause us or the relevant NAV Technology Licensee to abandon the relevant product candidate, which could materially and adversely affect our business, financial condition, results of operations and prospects.

There is a high failure rate for drugs and biologic products proceeding through clinical trials. Many companies in the biotechnology and pharmaceutical industries have suffered significant setbacks in late-stage clinical trials even after achieving promising results in preclinical testing and earlier-stage clinical trials. Data obtained from preclinical and clinical activities are subject to varying interpretations, which may delay, limit or prevent regulatory approval. In addition, we may experience regulatory delays or rejections as a result of many factors, including due to changes in regulatory policy during the period of our product candidate development. Success in preclinical testing and early clinical trials does not ensure that later clinical trials will generate the same results or otherwise provide adequate data to demonstrate the efficacy and safety of a product candidate. The design of a clinical trial can determine whether its results will support approval of a product and flaws in the design of a clinical trial may not become apparent until the clinical trial is well advanced. Our company has limited experience in designing clinical trials and we may be unable to design and execute a clinical trial to support regulatory approval. Any of these factors could materially and adversely affect our business, financial condition, results of operations and prospects.

Our NAV Technology Platform, our product candidates or NAV Technology Licensees' product candidates, and the process for administering such product candidates may cause undesirable side effects or have other properties that could delay or prevent regulatory approval of product candidates, limit the commercial potential or result in significant negative consequences following any potential marketing approval.

There have been several significant adverse side effects in gene therapy treatments in the past, including reported cases of leukemia in trials using lentivirus vectors and death seen in other trials using adenovirus vectors. While new recombinant vectors have been designed to reduce these side effects, gene therapy is still a relatively new approach to disease treatment and additional adverse side effects could develop. There also is the potential risk of delayed adverse events following exposure to gene therapy products due to persistent biologic activity of the genetic material or other components of products used to carry the genetic material. Possible adverse side effects that could occur with treatment with gene therapy products include an immunologic reaction early after administration which could substantially limit the effectiveness of the treatment. In previous clinical trials involving AAV vectors for gene therapy, some subjects experienced the development of a T-cell response, whereby after the vector is within the target cell, the cellular immune response system triggers the removal of transduced cells by activated T-cells. Similarly, a T-cell response may be the cause of the transaminase elevations observed in the RGX-501 trial. In addition to side effects caused by product candidates, the administration process or related procedures also can cause adverse side effects. If any such adverse events occur in our or third party trials, our clinical trials could be suspended or terminated.

As a result of these concerns, we may decide, or the FDA, the European Commission, the EMA or other regulatory authorities could order us, to halt, delay or amend preclinical development or clinical development of our product candidates or we may be unable to receive regulatory approval of our product candidates for any or all targeted indications. Even if we are able to demonstrate that all future serious adverse events are not product-related, such occurrences could affect patient recruitment or the ability of enrolled patients to complete the trial. Moreover, if we elect, or are required, to delay, suspend or terminate any clinical trial of any of our product candidates, the commercial prospects of such product candidates may be harmed and our ability to generate product revenues from any of these product candidates may be delayed or eliminated. Any of these occurrences may harm our ability to develop other product candidates and may harm our business, financial condition and prospects significantly.

Additionally, if any of our product candidates receives marketing approval, the FDA could require us to adopt a Risk Evaluation and Mitigation Strategy (REMS) and other regulatory authorities could impose other specific obligations as a condition of approval to ensure that the benefits of our product candidates outweigh their risks, which could delay approval of our product candidates. A REMS may include, among other things, a medication guide outlining the risks of the product for distribution to patients; a communication plan to health care practitioners or patients; and elements to assure safe use, which can severely restrict the distribution of a product by, for example, requiring that health care providers receive particular training and obtain special certification prior to prescribing and dispensing the product, limiting the healthcare settings in which the product may be dispensed, and subjecting patients to monitoring and enrollment in a registry. If the FDA requires us to adopt a REMS for our products and we are unable to comply with its requirements, the FDA may deem our products to be misbranded and we may be subject to civil money penalties. The European Commission, the EMA and other regulatory authorities may, following grant of marketing authorization in their territory, impose similar obligations.

Furthermore, if we or others later identify undesirable side effects caused by one of our product candidates, several potentially significant negative consequences could result, including:

- regulatory authorities may suspend, vary or withdraw approvals of such product candidate;
- regulatory authorities may require additional warnings on the label;
- we may be required to change the way a product candidate is administered or conduct additional clinical trials;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of our NAV Technology Platform and our product candidates and could materially harm our business, prospects, financial condition and results of operations.

We may be unable to obtain orphan drug designation or exclusivity for some product candidates. If our competitors are able to obtain orphan drug exclusivity for products that constitute the same drug and treat the same indications as our product candidates, we may not be able to have competing products approved by the applicable regulatory authority for a significant period of time.

Regulatory authorities in some jurisdictions, including the United States and the European Union, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act of 1983, the FDA may designate a product candidate as an orphan drug if it is intended to treat a rare disease or condition, which is defined under the Food, Drug and Cosmetic Act as having a patient population of fewer than 200,000 individuals in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. In the European Union, following the opinion of the EMA's Committee for Orphan Medicinal Products, the European Commission grants orphan drug designation to promote the development of products that are intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition affecting not more than five in 10,000 persons in the European Union. Additionally, orphan designation is granted for products intended for the diagnosis, prevention or treatment of a life-threatening, seriously debilitating or serious and chronic condition and when, without incentives, it is unlikely that sales of the drug in the European Union would be sufficient to justify the necessary investment in developing the drug or biologic product.

Generally, if a product candidate with an orphan drug designation receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the FDA or the European Commission from approving another marketing application for a product that constitutes the same drug treating the same indication for that marketing exclusivity period, except in limited circumstances. If another sponsor receives such approval before we do (regardless of our orphan drug designation), we will be precluded from receiving marketing approval for our product for the applicable exclusivity period. The applicable period is seven years in the United States and 10 years in the European Union. The exclusivity period in the United States can be extended by six months if the BLA sponsor submits pediatric data that fairly respond to a written request from the FDA for such data. The exclusivity period in the European Union can be reduced to six years if a product no longer meets the criteria for orphan drug designation or if the product is sufficiently profitable so that market exclusivity is no longer justified. Orphan drug exclusivity may be revoked if any regulatory agency determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of patients with the rare disease or condition.

If we request orphan drug designation for any of our product candidates, there can be no assurances that the FDA or the European Commission will grant any of our product candidates such designation. Additionally, the designation of any of our product candidates as an orphan product does not guarantee that any regulatory agency will accelerate regulatory review of, or ultimately approve, that product candidate, nor does it limit the ability of any regulatory agency to grant orphan drug designation to product candidates of other companies that treat the same indications as our product candidates prior to our product candidates receiving exclusive marketing approval.

Even if we obtain orphan drug exclusivity for a product candidate, that exclusivity may not effectively protect the product candidate from competition because different drugs can be approved for the same condition. In the United States, even after an orphan drug is approved, the FDA may subsequently approve another drug for the same condition if the FDA concludes that the latter drug is not the same drug or is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care. In the European Union, marketing authorization may be granted to a similar medicinal product for the same orphan indication if:

- the second applicant can establish in its application that its medicinal product, although similar to the orphan medicinal product already authorized, is safer, more effective or otherwise clinically superior;
- the holder of the marketing authorization for the original orphan medicinal product consents to a second orphan medicinal product application; or
- the holder of the marketing authorization for the original orphan medicinal product cannot supply sufficient quantities of orphan medicinal product.

Even if we complete the necessary preclinical studies and clinical trials, we cannot predict when, or if, we will obtain regulatory approval to commercialize a product candidate and the approval may be for a narrower indication than we seek.

We cannot commercialize a product candidate until the appropriate regulatory authorities have reviewed and approved the product candidate. Even if our product candidates meet their safety and efficacy endpoints in clinical trials, the regulatory authorities may not complete their review processes in a timely manner or we may not be able to obtain regulatory approval. Additional delays may result if an FDA Advisory Committee or other regulatory authority recommends non-approval or restrictions on approval. In addition, we may experience delays or rejections based on additional government regulation from future legislation or administrative action or based on changes in regulatory authority policy during the period of product development, clinical trials and the review process.

Regulatory authorities also may approve a product candidate for more limited indications than requested or they may impose significant limitations in the form of narrow indications, warnings or a REMS. These regulatory authorities may require precautions or contra-indications with respect to conditions of use or they may grant approval subject to the performance of costly post-marketing clinical trials. In addition, regulatory authorities may not approve the labeling claims that are necessary or desirable for the successful commercialization of our product candidates. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates and materially harm our business, financial condition, results of operations and prospects.

Further, the regulatory authorities may require concurrent approval or the CE mark (a mandatory conformity assessment marking for certain products sold within the European Economic Area (the EEA)) of a companion diagnostic device, since it may be necessary to use FDA-cleared or FDA-approved, or CE-marked, diagnostic tests or diagnostic tests approved by other comparable foreign regulatory authorities to diagnose patients or to assure the safe and effective use of our product candidates in trial subjects. FDA refers to such tests as *in vitro* companion diagnostic devices. The FDA has articulated a policy position that, when safe and effective use of a therapeutic product depends on a diagnostic device, the FDA generally will require approval or clearance of the companion diagnostic device at the same time that FDA approves the therapeutic product. The FDA's guidance allows for two exceptions to the general rule of concurrent drug/device approval, namely, when the therapeutic product is intended to treat serious and life-threatening conditions for which no alternative exists, and when a serious safety issue arises for an approved therapeutic agent, and no FDA-cleared or FDA-approved companion diagnostic test is yet available. It is unclear how the FDA will apply this policy to our current or future gene therapy product candidates. Should the FDA deem genetic tests used for diagnosing patients for our therapies to be *in vitro* companion diagnostics requiring FDA clearance or approval, we may face significant delays or obstacles in obtaining approval of a BLA for our product candidates.

In the European Union, companion diagnostics are subject to the European Union Directive on *in vitro* diagnostic medical devices and its implementation in the European Union Member States. Recently revised European Union laws on *in vitro* diagnostics will apply beginning in 2022 and provide stricter requirements for *in vitro* diagnostic medical devices and impose additional obligations on manufacturers of *in vitro* diagnostic medical devices that may impact the development and authorization of our product candidates in the European Union. For example, the new regulation extends the requirement for performance assessment procedures and requires greater involvement of notified bodies in the development of *in vitro* diagnostic medical devices. This may result in additional regulatory and premarket requirements to market new *in vitro* diagnostic medical devices. Companies producing *in vitro* diagnostic medical devices will be required to have a responsible person to oversee regulatory compliance. In addition, the new regulation modifies the risk classification of *in vitro* diagnostic medical devices in a manner that could increase the number of products classified in higher risk classes that are subject to stricter regulation.

Even if we obtain regulatory approval for a product candidate, our products will remain subject to regulatory oversight.

Even if we obtain any regulatory approval for our product candidates, they will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping and submission of safety and other post-market information. Any regulatory approvals that we receive for our product candidates also may be subject to a REMS, or obligations imposed as a condition for marketing authorization by other regulatory authorities, 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 quality, safety and efficacy of the product. For example, in the United States, the holder of an approved BLA is obligated to monitor and report adverse events and any failure of a product to meet the specifications in the BLA. FDA guidance advises that patients treated with some types of gene therapy undergo follow-up observations for potential adverse events for as long as 15 years. The holder of an approved BLA also must submit new or supplemental applications and obtain FDA approval for certain changes to the approved product, product labeling or manufacturing process. Advertising and promotional materials must comply with the FDA rules and are subject to FDA review, in addition to other potentially applicable federal and state laws.

In the European Union, the advertising and promotion of our product candidates may be subject to laws governing promotion of medicinal products, interactions with physicians, misleading and comparative advertising and unfair commercial practices. In addition, other legislation adopted by individual European Union Member States may apply to the advertising and promotion of medicinal products. These laws require that promotional materials and advertising in relation to medicinal products comply with the product's Summary of Product Characteristics (SmPC), as approved by the competent authorities. The SmPC is the document that provides information to physicians concerning the safe and effective use of the medicinal product. It forms an intrinsic and integral part of the marketing authorization granted for the medicinal product. Promotion of a medicinal product that does not comply with the SmPC is considered to constitute off-label promotion. The off-label promotion of medicinal products is prohibited in the European Union. The applicable laws also prohibit the direct-to-consumer advertising of prescription-only medicinal products. Violations of the rules governing the promotion of medicinal products in the European Union could be penalized by administrative measures, fines and imprisonment. These laws may further limit or restrict the advertising and promotion of our products to the general public and may also impose limitations on our promotional activities with health care professionals.

In addition, product manufacturers and their facilities are subject to payment of user fees and continual review and periodic inspections by the FDA and other regulatory authorities for compliance with current good manufacturing practice (cGMP) requirements and adherence to commitments made in the BLA or foreign marketing application. If we, or a regulatory authority, discover previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured or disagrees with the promotion, marketing or labeling of that product, a regulatory authority may impose restrictions relative to that product, the manufacturing facility or us, including requiring recall or withdrawal of the product from the market or suspension of manufacturing.

In the European Union, marketing authorization holders and manufacturers of medicinal products are subject to comprehensive regulatory oversight by the EMA and the competent authorities of the individual European Union Member States both before and after grant of the manufacturing and marketing authorizations. This includes control of compliance with cGMP rules. We and our third party manufacturers would be required to ensure that all of our processes, methods, and equipment are compliant with cGMP. Failure by us or by any of our third party partners, including suppliers, manufacturers and distributors, to comply with European Union laws and the related laws of individual European Union Member States governing the conduct of clinical trials, manufacturing approval, marketing authorization of medicinal products and marketing of such products following authorization may result in administrative, civil or criminal penalties.

In addition, European Union legislation related to pharmacovigilance, or the assessment and monitoring of the safety of medicinal products, provides that the EMA and the competent authorities of the European Union Member States have the authority to require companies to conduct additional post-approval clinical efficacy and safety studies. The legislation also governs the obligations of marketing authorization holders with respect to additional monitoring, adverse event management and reporting. Under the pharmacovigilance legislation and its related regulations and guidelines, we may be required to conduct ongoing assessments of the risks and benefits of marketed products, including the possible requirement to conduct additional clinical studies, which may be time-consuming and expensive and could materially decrease our profitability.

If we fail to comply with applicable regulatory requirements following approval of any of our product candidates, a regulatory authority may take a variety of actions, including:

- issue a warning letter asserting that we are in violation of the law;
- seek an injunction or impose administrative, civil or criminal penalties or monetary fines;
- suspend, vary or withdraw regulatory approval;
- suspend any ongoing clinical trials;
- refuse to approve a pending BLA or comparable foreign marketing application (or any supplements thereto) submitted by us or our strategic partners;
- restrict the marketing or manufacturing of the product;
- seize or detain the product or otherwise require the withdrawal of the product from the market;
- refuse to permit the import or export of products; or
- refuse to allow us to enter into supply contracts, including government contracts.

Any government investigation of alleged violations of law could require us to expend significant time and resources to respond and could generate negative publicity. The occurrence of any event or penalty described above may inhibit our ability to commercialize our product candidates and harm our business, financial condition, results of operations and prospects.

In addition, the FDA's policies, and those of comparable foreign 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 action, either in the United States or abroad. 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 compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability, which would materially harm our business, financial condition, results of operations and prospects.

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

The biotechnology and pharmaceutical industries, including the gene therapy field, 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.

We are aware of several companies focused on developing gene therapies in various indications, as well as several companies addressing other methods for modifying genes and regulating gene expression. Any advances in gene therapy technology made by a competitor may be used to develop therapies that could compete against any of our product candidates.

Many of our potential competitors, alone or with their strategic partners, have substantially greater financial, technical and other resources, such as larger research and development, clinical, marketing and manufacturing organizations. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated among a smaller number of competitors. Our commercial opportunity could be reduced or eliminated if competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Competitors also may obtain FDA or other regulatory approval for their products more rapidly or earlier than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. Additionally, technologies developed by our competitors may render our potential product candidates uneconomical or obsolete, and we may not be successful in marketing our product candidates against those of competitors.

In addition, as a result of the expiration or successful challenge of our patent rights, we could face more litigation with respect to the validity and/or scope of patents relating to our competitors' products. The availability of our competitors' products could limit the demand, and the price we are able to charge, for any products that we may develop and commercialize.

Even if we obtain and maintain approval for our product candidates from the FDA, we may never obtain approval for our product candidates outside of the United States, which would limit our market opportunities and harm our business.

Approval of a product candidate in the United States by the FDA does not ensure approval of such product candidate by regulatory authorities in other countries or jurisdictions, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. Sales of our product candidates outside of the United States will be subject to foreign regulatory requirements governing clinical trials and marketing approval. Even if the FDA grants marketing approval for a product candidate, comparable regulatory authorities of foreign countries also must approve the manufacturing and marketing of the product candidates in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and more onerous than, those in the United States, including additional preclinical studies or clinical trials. In many countries outside the United States, a product candidate must be approved for reimbursement before it can be approved for sale in that country. In some cases, the price that we intend to charge for our products, if approved, is also subject to approval. We intend to submit a marketing authorization application to EMA for approval of our product candidates by the European Commission in the European Union. However, obtaining such approval from the European Commission following the opinion of EMA is a lengthy and expensive process. Even if a product candidate is approved, the FDA or the European Commission, as the case may be, may limit the indications for which the product may be marketed, require extensive warnings on the product labeling or require expensive and time-consuming additional clinical trials or reporting as conditions of approval. Regulatory authorities in countries outside of the United States and the European Union also have requirements for approval of product candidates with which we must comply prior to marketing in those countries. 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 product candidates in certain countries.

Further, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries. Also, regulatory approval for any of our product candidates may be withdrawn. If we fail to comply with the regulatory requirements, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed and our business, financial condition, results of operations and prospects will be harmed.

Risks Related to Our Financial Position

We have incurred cumulative net losses and have had few profitable quarters since inception. We expect to normally incur losses for the foreseeable future and may never again achieve or maintain profitability.

Since inception, we have incurred cumulative net losses. We historically have financed our operations primarily through private and public offerings of our equity securities and sublicensing rights to our NAV Technology Platform. We have devoted substantially all of our efforts to licensing our NAV Technology Platform and to research and development, including preclinical and clinical development of our product candidates, as well as to building out our team. We expect that it could be several years, if ever, before we commercialize a product candidate. We license certain intellectual property related to our NAV Technology Platform to third parties. Our NAV Technology Licensees have multiple preclinical studies and clinical trials in progress. However, no NAV Technology Licensee has an approved or commercialized gene therapy product based on such licensing program. We expect to normally generate only limited revenue, if any, from our current NAV Technology Licensees and any future NAV Technology Licensees in the near term. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. The net losses we incur may fluctuate significantly from quarter to quarter. We anticipate that our expenses will increase substantially if, and as, we:

- further develop our sublicensing activities and NAV Technology Platform;
- continue our research studies and preclinical and clinical development of our product candidates, including our lead product candidates;
- initiate additional preclinical studies and clinical trials for our lead product candidates and future product candidates, if any;
- initiate additional activities relating to manufacturing, including building out additional laboratory and manufacturing capacity;
- seek to identify additional product candidates;
- prepare our BLA and MAA for our lead product candidates and seek marketing approvals for any of our other product candidates that successfully complete clinical trials, if any;
- expand our medical affairs efforts;
- establish a sales, marketing and distribution infrastructure to commercialize any product candidates for which we may obtain marketing approval, if any;
- operate as a public company;
- maintain, expand and protect our intellectual property portfolio; and
- acquire or in-license other product candidates and technologies.

For us to become profitable, we and our NAV Technology Licensees must develop and eventually commercialize product candidates with significant market potential. This will require us and our NAV Technology Licensees to be successful in a range of business challenges, including expansion of the licensing of our NAV Technology Platform, completing preclinical studies of product candidates, commencing and completing clinical trials of product candidates, obtaining marketing approval for these product candidates, manufacturing, marketing and selling those products for which we may obtain marketing approval and satisfying any post-marketing requirements. We may never succeed in any or all of these activities and, even if we do, we may never generate revenues that are sufficient 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 the value of our company and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations. A decline in the value of our company also could cause you to lose all or part of your investment.

We may need to raise additional funding, which may not be available on acceptable terms, or at all. Failure to obtain this necessary capital when needed may force us to delay, limit or terminate certain of our licensing activities, product development efforts or other operations.

We expect to require substantial future capital in order to complete research studies, preclinical and clinical development for our current product candidates and any future product candidates, and potentially commercialize these product candidates. We expect our spending levels to increase in connection with our preclinical and clinical trials of our product candidates. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant expenses related to product sales, medical affairs, marketing, manufacturing and distribution. Furthermore, we expect to incur additional costs associated with operating as a public company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce or eliminate certain of our licensing activities, our research and development programs or other operations.

Our operations have consumed significant amounts of cash since inception. We expect that our cash, cash equivalents and marketable securities as of the end of the period to which this filing relates will enable us to fund our operating expenses and capital expenditure requirements for at least the next 12 months from the date of this report, based on our current business plan.

Our future capital requirements will depend on many factors, including:

- the timing of enrollment, commencement and completion of our clinical trials;
- the results of our clinical trials;
- the results of our preclinical studies for our product candidates and any subsequent clinical trials;
- our planned expansion of the licensing of our NAV Technology Platform;
- the scope, progress, results and costs of drug discovery, laboratory testing, preclinical development and clinical trials for our product candidates;
- the costs associated with building out additional laboratory and manufacturing capacity, if any;
- the costs, timing and outcome of regulatory review of our product candidates;
- the costs of future product sales, medical affairs, marketing, manufacturing and distribution activities for any of our product candidates for which we receive marketing approval;
- revenue, if any, received from commercial sale of our products, should any of our product candidates receive marketing approval;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;
- our current licensing agreements or collaborations remaining in effect;
- our ability to establish and maintain additional licensing agreements or collaborations on favorable terms, if at all;
- the extent to which we acquire or in-license other product candidates and technologies; and
- the costs associated with being a public company.

Many of these factors are outside of our control. Identifying potential product candidates and conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain regulatory and marketing approval and achieve product sales. In addition, our product candidates, if approved, may not achieve commercial success. Our product revenues, if any, and any commercial milestones or royalty payments under our licensing agreements, will be derived from or based on sales of products that may not be commercially available for many years, if at all. In addition, revenue from our NAV Technology Platform sublicensing is dependent in part on the clinical and commercial success of our licensing partners, and no products have been commercialized by us or our NAV Technology Licensees using our NAV Technology Platform to date. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives.

To the extent that additional capital is raised through the sale of equity or equity-linked securities, the issuance of those securities could result in substantial dilution for our current stockholders and the terms may include liquidation or other preferences that adversely affect the rights of our current stockholders. Furthermore, the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our common stock to decline. Adequate additional financing may not be available to us on acceptable terms, or at all. We also could be required to seek funds through arrangements with partners or otherwise that may require us to relinquish rights to our intellectual property, our product candidates or otherwise agree to terms unfavorable to us.

We have generated non-recurring revenue from our NAV Technology Platform sublicensing and may not successfully expand our licensing activities.

Our ability to generate revenue from our NAV Technology Platform sublicensing depends on the acceptance by third parties of our NAV Technology Platform as their primary gene therapy technology and our ability to market and license our technology platform. We do not anticipate generating revenues from product sales for the next several years, if ever, as described elsewhere in these risk factors, and anticipate normally generating only limited revenue from our NAV Technology Platform sublicensing in the near future. To date, a significant portion of our revenues have been generated from the sublicensing of rights to our NAV Technology Platform. Our ability to generate future revenues from our NAV Technology Platform sublicensing depends on many factors, including:

- our NAV Technology Licensees successfully developing gene therapy products using our NAV Technology Platform;
- obtaining and maintaining market acceptance of our NAV Technology Platform as a primary gene therapy technology;
- maintaining our licensing agreements with our licensor partners, including GlaxoSmithKline LLC (GSK) and the University of Pennsylvania (Penn);
- addressing any competing technological and market developments;
- implementing additional internal systems and infrastructure, as needed;
- negotiating favorable terms in any licensing or other arrangements into which we may enter and performing our obligations in such agreements;
- maintaining, protecting and expanding our portfolio of intellectual property rights, including patents, trade secrets and know-how;
- avoiding and defending against third-party interference, infringement and other intellectual property related claims; and
- attracting, hiring and retaining qualified personnel.

We have never generated revenue from product candidate sales and have only generated limited revenue from reagent sales.

Our ability to generate revenue from product candidate sales depends on our ability, alone or with partners, to successfully complete the development of, and obtain the regulatory approvals necessary to commercialize, our product candidates. All of our revenues to date have been from sublicensing our NAV Technology Platform, the sale of licensed reagents to third-parties for use in research and development and grant revenue generated through research and development grant programs offered by the U.S. federal government and the European Union. We expect grant revenue to be minimal in future periods, as we currently do not expect to receive any new grant awards. We do not dedicate resources to sales efforts for reagents. Accordingly, future revenue from reagent sales is uncertain and may fluctuate significantly from period to period. We do not anticipate generating revenues from our and our NAV Technology Licensees' product candidate sales for the next several years, if ever. Our ability to generate future revenues from product candidate sales depends heavily on our, or our NAV Technology Licensees', success in:

- completing research studies and preclinical and clinical development of product candidates and identifying new gene therapy product candidates;
- seeking and obtaining regulatory and marketing approvals for product candidates for which clinical trials are completed;
- launching and commercializing product candidates for which regulatory and marketing approval is obtained by establishing a sales force, marketing and distribution infrastructure or, alternatively, collaborating with a commercialization partner;
- negotiating favorable terms in any collaboration, licensing or other arrangements into which we may enter and performing our obligations in such collaborations;
- qualifying for adequate coverage and reimbursement by government and third-party payors for product candidates;
- maintaining and enhancing a sustainable, scalable, reproducible and transferable manufacturing process for our vectors and product candidates;
- establishing and maintaining supply and manufacturing relationships with third parties that can provide adequate, in both amount and quality, products and services to support clinical development and the market demand for product candidates, if approved;
- obtaining market acceptance of product candidates as a viable treatment option;

- addressing any competing technological and market developments;
- implementing additional internal systems and infrastructure, as needed;
- negotiating favorable terms in any collaboration, licensing or other arrangements into which we may enter and performing our obligations in such collaborations;
- maintaining, protecting and expanding our portfolio of intellectual property rights, including patents, trade secrets and know-how;
- avoiding and defending against third-party interference, infringement and other intellectual property related claims; and
- attracting, hiring and retaining qualified personnel.

Even if one or more of the product candidates that we develop is approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate. Our expenses could increase beyond expectations if we are required by the FDA, the EMA or other regulatory authorities to perform clinical and other studies in addition to those that we currently anticipate. Even if we are able to generate revenues from the sale of any approved products, we may not become profitable and may need to obtain additional funding to continue operations.

Our limited operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

Our company was formed in July 2008. Our operations to date have predominantly focused on organizing and staffing our company, business planning, raising capital, acquiring our technology, administering and expanding our NAV Technology Platform sublicensing, identifying potential product candidates, undertaking research, preclinical studies and clinical trials of our product candidates and establishing licensing arrangements and collaborations. We have not yet fully demonstrated the ability to continue expansion of our NAV Technology Platform sublicensing efforts, complete and report clinical trials of our product candidates, obtain marketing approvals, manufacture a commercial-scale product or conduct sales and marketing activities necessary for successful commercialization. Consequently, any predictions you make about our future success or viability may not be as accurate as they could be if we had a longer operating history.

In addition, as a new business, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. We have been transitioning from a company with a licensing and research focus to a company that is also capable of supporting clinical development activities and we may need to transition to supporting commercial activities in the future. We may not be successful in these transitions.

Changes in accounting standards and disagreements and differing views by the SEC, the Financial Accounting Standards Board (FASB) or various other bodies with respect to the interpretations, estimates and judgments required for the preparation of our financial statements could result in the restatement of our financial statements or other potential adverse effects.

We are subject to complex tax laws, regulations, accounting principles and interpretations thereof. The preparation of our financial statements requires us to interpret accounting principles and guidance and make estimates and judgments that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. Our interpretations, estimates and judgments are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for the preparation of our financial statements. U.S. generally accepted accounting principles are subject to interpretation by the SEC, FASB and various other bodies formed to interpret and create appropriate accounting principles and guidance. In the event that these rules change with respect to a matter that is or may become relevant to our business, such as revenue recognition, asset impairment and fair value determinations, inventories, business combinations and intangible asset valuations, leases and litigation, or in the event that one of these bodies disagrees with our accounting recognition, measurement or disclosure or any of our accounting interpretations, estimates or assumptions, it may have a significant effect on our reported results and may retroactively affect previously reported results. The need to restate our financial results could, among other potential adverse effects, result in us incurring substantial costs, affect our ability to timely file our periodic reports until such restatement is completed, divert the attention of our management and employees from managing our business, result in material changes to our historical and future financial results, result in investors losing confidence in our operating results, subject us to securities class action litigation, and cause our stock price to decline.

If we are unable to maintain effective internal control over financial reporting, investors may lose confidence in the accuracy of our financial reports.

As a public company, we are required to maintain internal control over financial reporting and to report any material weaknesses in such internal controls. Section 404 of the Sarbanes-Oxley Act of 2002 (Section 404) requires that we evaluate and determine the effectiveness of our internal control over financial reporting and provide a management report on internal control over financial reporting. On January 1, 2019, we will no longer be an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012 (the JOBS Act), and our management report on internal control over financial reporting will need to be attested to by our independent registered public accounting firm. To date, we have not had our independent registered public accounting firm attest to our management report on internal control over financial reporting. Had our independent registered public accounting firm performed an evaluation of the effectiveness of our internal control over financial reporting in accordance with Section 404, it is possible that material weaknesses may have been identified.

If we have, or fail to identify, a material weakness in our internal control over financial reporting, we may not detect errors on a timely basis, the accuracy and timing of our financial reporting may be adversely affected and our financial statements may be materially misstated. In addition, our internal control over financial reporting will not prevent or detect all errors and fraud. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud will be detected.

If there are material weaknesses or failures in our ability to meet any of the requirements related to the maintenance and reporting of our internal controls, investors may lose confidence in the accuracy and completeness of our financial reports and that could cause the price of our common stock to decline. In addition, we could become subject to investigations by Nasdaq, the SEC or other regulatory authorities, which could require additional management attention and which could adversely affect our business.

Changes in U.S. federal, state and local or foreign tax laws, interpretations of existing tax laws, or adverse determinations by tax authorities, could increase our tax burden or otherwise adversely affect our financial condition or results of operations.

We are subject to taxation at the U.S. federal, state and local levels and in foreign jurisdictions. Our future tax rates and cash flows could be affected by changes in statutory rates and other legislative changes, changes in the valuation of our deferred tax assets and liabilities, changes in the composition of earnings in jurisdictions with differing tax rates, changes in determinations regarding the jurisdictions in which we are subject to taxation, and our ability to repatriate earnings from foreign jurisdictions. From time to time, governments may make substantive changes to their tax rules and the application thereof, which could result in materially higher corporate taxes than would be incurred under existing tax laws and could otherwise adversely affect our financial condition or results of operations.

We are subject to periodic tax audits. An unfavorable outcome from any tax audit could result in higher tax costs, penalties or interest, or adjustments to our tax credits or net operating losses (NOLs), which could adversely affect our financial condition or results of operations.

We have incurred substantial net losses since inception and expect to normally incur losses for the foreseeable future. Under the Internal Revenue Code of 1986, as amended (the Code), we can carry forward our NOLs and other unused tax attributes, such as tax credits, to offset our future taxable income, if any, until such NOLs or other tax attributes are used or expire. If we undergo an “ownership change,” generally defined as a greater than 50% change by value in our equity ownership over a three-year period, the Code would limit our ability to use carryovers of our pre-ownership change NOLs, tax credits and certain other tax attributes to reduce our tax liability for periods after the ownership change. Therefore, an ownership change could result in increased U.S. tax liability for us if we generate taxable income in a future period.

In December 2017, the Tax Cuts and Jobs Act of 2017 (the TCJA) was signed into law, which significantly reforms the Code. The TCJA, among other things, contains significant changes to corporate taxation, including reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, limitation of the tax deduction for interest expense to 30% of adjusted earnings (except for certain small businesses), limitation of the deduction for NOLs to 80% of current year taxable income, elimination of NOL carrybacks, one-time taxation of offshore earnings at reduced rates regardless of whether they are repatriated, elimination of U.S. tax on foreign earnings (subject to certain significant exceptions), immediate deductions for certain new investments instead of deductions for depreciation expense over time, and modification or repeal of many business deductions and credits, including the orphan drug tax credit. The overall impact of the TCJA is uncertain and our business and financial condition could be adversely affected. In addition, it is uncertain if and to what extent various states will conform to the TCJA. The impact of the TCJA on our securityholders is also uncertain and could be adverse. Prospective investors should consult with their legal and tax advisors with respect to the TCJA and the potential tax consequences of investing in or holding our securities.

Risks Related to Third Parties

We rely on third parties to conduct certain preclinical research and development activities and aspects of our clinical trials. If these third parties do not meet our deadlines or otherwise conduct the preclinical research and development activities and trials as required, our preclinical and clinical development programs could be delayed or unsuccessful and we may not be able to obtain regulatory approval for or commercialize our product candidates when expected or at all.

We do not have the ability to conduct all aspects of our preclinical research and development activities or clinical trials ourselves. We are dependent on third parties to conduct the clinical trials for RGX-501 and certain aspects of our clinical trials for other product candidates and, therefore, the timing of the initiation and completion of these trials may be controlled by such third parties and may occur on substantially different timing from our estimates. Specifically, we rely on Penn to conduct our Phase I/II clinical trial for RGX-501, we rely on Penn and other third parties to conduct a portion of our preclinical research and development activities and we may also rely on CROs, medical institutions, clinical investigators, consultants or other third parties to conduct our clinical trials in accordance with our clinical protocols and regulatory requirements. A loss or deterioration of our relationships with such third parties or the principal investigators for our preclinical and clinical programs could materially harm our business.

There is no guarantee that Penn or any other third party on which we rely for our preclinical research and development activities and the administration and conduct of our clinical trials will devote adequate time and resources to such activities or trials or perform as contractually required. If any such third party fails to meet expected deadlines, fails to adhere to our preclinical or clinical protocols or otherwise performs in a substandard manner, our preclinical programs and clinical trials may be extended, delayed, or terminated, which could materially harm our business. Additionally, if any of our clinical trial sites terminates for any reason, we may experience the loss of follow-up information on subjects enrolled in our ongoing clinical trials unless we are able to transfer those subjects to another qualified clinical trial site. Furthermore, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and may receive cash or equity compensation in connection with such services. If these relationships and any related compensation result in perceived or actual conflicts of interest, the integrity of the data generated at the applicable clinical trial site may be jeopardized, which could result in substantial delays in our clinical trials and materially harm our business.

We have in the past, and in the future may, enter into licensing agreements or collaborations with third parties licensing parts of our NAV Technology Platform for the development of product candidates. If these licensing arrangements or collaborations are not successful, our business could be harmed.

We have entered into agreements involving the licensing of parts of our NAV Technology Platform and relating to the development and commercialization of certain product candidates and plan to enter into additional licensing agreements or collaborations in the future. We have limited control over the amount and timing of resources that our current and future licensees and collaborators, including our NAV Technology Licensees, dedicate to the development or commercialization of product candidates or of products utilizing licensed components of our NAV Technology Platform. Our ability to generate revenues from these arrangements will depend on our and our licensees' and collaborators' abilities to successfully perform the functions assigned to each of us in these arrangements. In addition, our licensees and collaborators have the ability to abandon research or development projects and terminate applicable agreements. Moreover, an unsuccessful outcome in any clinical trial for which our licensee or collaborator is responsible could be harmful to the public perception and prospects of our NAV Technology Platform or product candidates.

Any current or future licensing agreements or future collaborations we enter into may pose risks, including the following:

- licensees or collaborators have significant discretion in determining the efforts and resources that they will apply to these licensing agreements or collaborations;
- licensees or collaborators may not perform their obligations as expected;
- the clinical trials conducted as part of these licensing agreements or collaborations may not be successful;
- subjects in clinical trials undertaken by licensees or future collaborators, including our NAV Technology Licensees, may suffer adverse effects, including death;
- licensees or 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 based on clinical trial results, changes in the licensees' or collaborators' strategic focus or available funding or external factors, such as an acquisition, that divert resources or create competing priorities;
- licensees or collaborators may delay clinical trials, provide insufficient funding for clinical trials, 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;

- we may not have access to, or may be restricted from disclosing, certain information regarding product candidates being developed or commercialized under a collaboration and, consequently, may have limited ability to inform our stockholders about the status of such product candidates;
- licensees or collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our product candidates if the licensees or collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- product candidates developed in collaboration with us may be viewed by our licensees or collaborators as competitive with their own product candidates or products, which may cause licensees or collaborators to cease to devote resources to the commercialization of our product candidates;
- a licensee or collaborator with marketing and distribution rights to one or more of our product candidates that achieve regulatory approval may not commit sufficient resources to the marketing and distribution of any such product candidate;
- licensees or collaborators may breach their reporting, payment, intellectual property or other obligations to us, which could prevent us from complying with our contractual obligations to GSK and Penn;
- disagreements with licensees or collaborators, including disagreements over intellectual property and other proprietary rights, contract interpretation or the preferred course of development of any product candidates, may cause delays or termination of the research, development or commercialization of such product candidates, may lead to additional responsibilities for us with respect to such product candidates or may result in litigation or arbitration, any of which would be time-consuming and expensive;
- licensees or collaborators may not properly maintain or defend our 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;
- disputes may arise with respect to the ownership of our other rights to intellectual property developed pursuant to our licensing agreements or collaborations;
- licensees or collaborators may infringe or otherwise violate the intellectual property rights of third parties, which may expose us to litigation and potential liability; and
- licensing agreements or collaborations may be terminated for the convenience of the licensee or collaborator and, if terminated, we could be required to raise additional capital to pursue further development or commercialization of the applicable product candidates.

If our licensing agreements or collaborations do not result in the successful development and commercialization of products, or if one of our licensees or collaborators terminates its agreement with us, we may not receive any future milestone or royalty payments, as applicable, under the license agreement or collaboration. If we do not receive the payments we expect under these agreements, our development of product candidates could be delayed and we may need additional resources to develop our product candidates. In addition, if one of our licensees or collaborators terminates its agreement with us, we may find it more difficult to attract new licensees or collaborators and the perception of us in the business and financial communities could be harmed. Each of our licensees and collaborators is subject to similar risks with respect to product development, regulatory approval and commercialization, and any such risk could result in its business being harmed, which could adversely affect our collaboration.

We may in the future decide to partner or collaborate with pharmaceutical and biotechnology companies for the development and potential commercialization of our product candidates. These relationships, or those like them, may require us to incur non-recurring and other charges, increase our near- and long-term expenditures, issue securities that dilute our existing stockholders or disrupt our management and business. In addition, we could face significant competition in seeking appropriate collaborators and the negotiation process is time-consuming and complex. Our ability to reach a definitive licensing agreement or collaboration agreement 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 variety of factors. If we license rights to product candidates, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate the licensed product candidates with our existing operations.

We may not be successful in finding strategic collaborators for continuing development of certain of our product candidates or successfully commercializing our product candidates.

We may seek to establish strategic partnerships for developing and/or commercializing certain of our product candidates, due to capital costs required to develop the product candidates or manufacturing constraints. We may not be successful in our efforts to establish such a strategic partnership or other alternative arrangements for our product candidates because our research and development pipeline may be insufficient, our product candidates may be deemed to be at too early of a stage of development for collaborative effort or third parties may not view our product candidates as having the requisite potential to demonstrate safety and efficacy or market opportunity. In addition, we may be restricted under existing collaboration agreements from entering into future agreements with potential collaborators. We cannot be certain that, following a strategic transaction or license, we will achieve an economic benefit that justifies such transaction.

If we are unable to reach agreements with suitable licensees or collaborators on a timely basis, on acceptable terms or at all, we may have to curtail the development of a product candidate, reduce or delay its development program, delay its potential commercialization, 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 development 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 development and commercialization activities, we may not be able to further develop our product candidates and our business, financial condition, results of operations and prospects may be materially harmed.

Our reliance on third parties requires us to share our trade secrets, which increases the possibility that a competitor will discover them or that our trade secrets will be misappropriated or disclosed.

Because we rely on third parties, including contractors, to research, develop and manufacture our product candidates, we must, at times, share trade secrets with them. We seek to protect our proprietary technology in part by entering into confidentiality agreements and, if applicable, material transfer agreements, consulting agreements or other similar agreements with our advisors, employees, third-party contractors and consultants prior to beginning research or disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information, including our trade secrets. Despite the contractual provisions employed when working with third parties, these provisions may be breached, and the need to share trade secrets and other confidential information increases the risk that such trade secrets become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. Given that our proprietary position is based, in part, on our know-how and trade secrets, a competitor’s independent discovery of our trade secrets or other unauthorized use or disclosure would impair our competitive position and may materially harm our business.

In addition, these agreements typically restrict the ability of our advisors, employees, third-party contractors and consultants to publish data potentially relating to our trade secrets, although our agreements may contain certain limited publication rights. For example, any academic institution that we collaborate with, or may collaborate with in the future, will sometimes be granted rights to publish data arising out of such collaboration, provided that we are notified in advance and given the opportunity to delay publication for a limited time period in order for us to secure patent protection of intellectual property rights arising from the collaboration, in addition to the opportunity to remove confidential or trade secret information from any such publication. We may also conduct joint research and development programs that may require us to share trade secrets under the terms of our research and development or similar agreements. Despite our efforts to protect our trade secrets, our competitors may discover our trade secrets, either through breach of our agreements with third parties, independent development or publication of information by any of our third-party collaborators. A competitor’s discovery of our trade secrets would impair our competitive position and harm our business.

Risks Related to Manufacturing

Products intended for use in gene therapies are novel, complex and difficult to manufacture. We could experience production problems that result in delays in our development or commercialization programs, limit the supply of our products or otherwise harm our business.

We currently have development, manufacturing and testing agreements with third parties to manufacture supplies of our product candidates, in addition to our internal manufacturing laboratory. Several factors could cause production interruptions, including equipment malfunctions, facility contamination, raw material shortages or contamination, natural disasters, disruption in utility services, human error or disruptions in the operations of suppliers.

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

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

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

Any problems in our manufacturing process or the facilities with which we contract 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. Problems in third-party manufacturing processes or facilities also could restrict our ability to meet market demand for our products. Additionally, should our manufacturing agreements with third parties be terminated for any reason, there may be a limited number of manufacturers who would be suitable replacements and it could take a significant amount of time to transition the manufacturing to a replacement.

Delays in obtaining regulatory approval of our manufacturing process or disruptions in our manufacturing process may delay or disrupt our commercialization efforts.

Before we can begin to commercially manufacture our product candidates in third-party or our own facilities, we must obtain regulatory approval from the FDA, which includes a review of the manufacturing process and facility. A manufacturing authorization must also be obtained from the appropriate European Union regulatory authorities and may be required by other foreign regulatory authorities. The timeframe required to obtain such approval or authorization is uncertain. In order to obtain approval, we will need to ensure that all of our processes, methods and equipment are compliant with cGMP, and perform extensive audits of vendors, contract laboratories and suppliers. If any of our vendors, contract laboratories or suppliers is found to be out of compliance with cGMP, we may experience delays or disruptions in manufacturing while we work with these third parties to remedy the violation or while we work to identify suitable replacement vendors, contract laboratories or suppliers. The cGMP requirements govern quality control of the manufacturing process and documentation policies and procedures. In complying with cGMP, we will be obligated to expend time, money and effort in production, record keeping and quality control to assure that the product meets applicable specifications and other requirements. If we fail to comply with these requirements, we would be subject to possible regulatory action and may not be permitted to sell any products that we may develop.

We currently rely and expect to continue to rely on third parties to conduct our product manufacturing, and these third parties may not perform satisfactorily.

We do not currently plan to independently manufacture most of the material for our planned preclinical and clinical programs. We currently rely, and expect to continue to rely, on third parties for the production of our preclinical study and planned clinical trial materials and, therefore, we can control only certain aspects of their activities.

We rely on additional third parties to manufacture ingredients of our product candidates and to perform quality testing, and reliance on these third parties entails risks to which we would not be subject if we manufactured the product candidates ourselves, including:

- reduced control for certain aspects of manufacturing activities;
- termination or nonrenewal of manufacturing and service agreements with third parties in a manner or at a time that is costly or damaging to us; and
- disruptions to the operations of our third-party manufacturers and service providers caused by conditions unrelated to our business or operations, including the bankruptcy of the manufacturer or service provider.

Any of these events could lead to clinical trial delays or failure to obtain regulatory approval, or impact our ability to successfully commercialize future product candidates. Some of these events could be the basis for FDA, EMA or other regulatory authority action, including injunction, recall, seizure or total or partial suspension of product manufacture or manufacturing authorization.

Failure to comply with ongoing manufacturing regulatory requirements could cause us to suspend production or put in place costly or time-consuming remedial measures.

Regulatory authorities may, at any time following approval of a product for sale, audit the manufacturing facilities for such product. If any such inspection or audit identifies a failure to comply with applicable regulations, or if a violation of product specifications or applicable regulations occurs independent of such an inspection or audit, the relevant regulatory authority may require remedial measures that may be costly or time-consuming to implement and that may include the temporary or permanent suspension of a clinical trial or commercial sales or the temporary or permanent closure of a manufacturing facility. Any such remedial measures imposed upon us or any of our third-party manufacturers could materially harm our business, financial condition, results of operations and prospects.

If we or any of our third party-manufacturers fail to comply with applicable cGMP regulations, regulatory authorities can impose regulatory sanctions including, among other things, refusal to approve a pending application for a new product candidate or suspension or revocation of a pre-existing approval. Such an occurrence may cause our business, financial condition, results of operations and prospects to be materially harmed.

Additionally, if supply from a manufacturing facility is interrupted, there could be a significant disruption in commercial supply of our products. An alternative manufacturer would need to be qualified, through a supplement to its regulatory filing, which could result in further delay. Regulatory authorities also may require additional trials if a new manufacturer is relied upon for commercial production. Switching manufacturers may involve substantial costs and could result in a delay in our desired clinical and commercial timelines.

Any contamination in our manufacturing process, shortages of raw materials or failure of any of our key suppliers to deliver necessary components could result in delays in our research studies, preclinical and clinical development or marketing schedules.

Given the nature of biologics manufacturing, there is a risk of contamination during manufacturing. Any contamination could materially harm our ability to produce product candidates on schedule and could harm our results of operations and cause reputational damage.

Some of the raw materials and other components required in our manufacturing process are derived from biologic sources, and we normally rely on suppliers to provide raw materials and other components. Such raw materials are difficult to procure and may be subject to contamination or recall. A material shortage, contamination, recall or restriction on the use of biologically derived substances in the manufacture of our product candidates may be beyond our control and could adversely impact or disrupt the commercial manufacturing or the production of clinical material, which could materially harm our development timelines and our business, financial condition, results of operations and prospects.

Risks Related to the Commercialization of Our Product Candidates

If we are unable to establish sales, medical affairs and marketing capabilities or enter into agreements with third parties to market and sell our product candidates, if approved, we may be unable to generate any product revenue.

We currently have no products to sell and therefore no product sales and marketing organization. To successfully commercialize any products that may result from our development programs, we will need to develop these capabilities, either on our own or with others. The establishment and development of our own commercial team or the establishment of a contract sales force to market any products we may develop will be expensive and time-consuming and could delay any product launch. Moreover, we cannot be certain that we will be able to successfully develop this capability. We may enter into collaborations regarding one or more of our product candidates with other entities to utilize their marketing and distribution capabilities, but we may be unable to enter into such agreements on favorable terms, if at all. If any current licensees or future licensees or collaborators do not commit sufficient resources to commercialize our products, or we are unable to develop the necessary capabilities on our own, we will be unable to generate sufficient product revenue to sustain our business. We compete with many companies that currently have extensive, experienced and well-funded medical affairs, marketing and sales operations to recruit, hire, train and retain marketing and sales personnel. We also face competition in our search for third parties to assist us with the sales and marketing efforts of our product candidates. Without an internal team or the support of a third party to perform marketing and sales functions, we may be unable to compete successfully against these more established companies.

Our efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources and may never be successful. Such efforts may require more resources than are typically required due to the complexity and uniqueness of our potential products. If any of our product candidates is approved but fails to achieve market acceptance among physicians, patients or third-party payors, we will not be able to generate significant revenues from such product, which could materially harm our business, financial condition, results of operations and prospects.

If we do not achieve our projected development goals in the time frames we announce and expect, the commercialization of our products may be delayed and, as a result, our stock price may decline.

From time to time, we estimate the timing of the accomplishment of various scientific, clinical, regulatory and other product development goals, which we sometimes refer to as milestones. These milestones may include the commencement or completion of scientific studies and clinical trials and the submission of regulatory filings. From time to time, we may publicly announce the expected timing of some of these milestones. All of these milestones are and will be based on numerous assumptions. The actual timing of these milestones can vary dramatically compared to our estimates, in some cases for reasons beyond our control. If we do not meet these milestones as publicly announced, or at all, the commercialization of our products may be delayed or never achieved and, as a result, our stock price may decline.

Our gene therapy approach utilizes vectors derived from viruses which may be perceived as unsafe or may result in unforeseen adverse events. Negative public opinion and increased regulatory scrutiny of gene therapy may damage public perception of the safety of our product candidates and harm our ability to conduct our business or obtain regulatory approvals for our product candidates.

Gene therapy remains a novel technology, with only a few gene therapy products approved to date in the United States, the European Union or elsewhere. Public perception may be influenced by claims that gene therapy is unsafe, and gene therapy 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 genetic 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 familiar and for which greater clinical data may be available. More restrictive government regulations or negative public opinion would harm 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 seen in other trials using other vectors. Serious adverse events related to clinical trials we conduct, clinical trials involving our NAV Technology Platform conducted by others or any gene therapy products, even if such adverse events are not ultimately attributable to the relevant product candidates or products, may 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 candidates.

Even if we receive regulatory approval, we still may not be able to successfully commercialize our lead product candidates or any future product candidate, and the revenue that we generate from any approved product's sales, if any, could be limited.

Ethical, social and legal concerns about gene therapy could result in additional regulations restricting or prohibiting our products. From time to time, public sentiment may be more adverse to commercialization of gene therapy as a therapeutic technique. Even with the requisite approvals from the FDA, the EMA and other regulatory authorities, the commercial success of our product candidates will depend, in part, on the acceptance of physicians, patients and health care payors of gene therapy products in general, and our product candidates in particular, as medically necessary, cost-effective and safe. Any product that we commercialize may not gain acceptance by physicians, patients, health care payors and others in the medical community. If these products do not achieve an adequate level of acceptance, we may not generate significant product revenue and may not become profitable. The degree of market acceptance of our product candidates will depend on a number of factors, including:

- demonstration of clinical efficacy and safety compared to other more-established products;
- the limitation of our targeted patient population and other limitations or warnings contained in any FDA, European Commission, or other comparable foreign regulatory authority-approved labeling;
- acceptance of a new formulation by health care providers and their patients;
- the prevalence and severity of any adverse effects;
- new procedures or methods of treatment that may be more effective in treating or may reduce the conditions which our products are intended to treat;
- pricing and cost-effectiveness;
- the effectiveness of our or any future collaborators' sales and marketing strategies;
- our ability to obtain and maintain sufficient third-party coverage and reimbursement from government health care programs, including Medicare and Medicaid, private health insurers and other third-party payors;
- unfavorable publicity relating to product candidates or gene therapy generally; and
- the willingness of patients to pay out-of-pocket in the absence of third-party coverage or reimbursement.

If any product candidate is approved but does not achieve an adequate level of acceptance by physicians, hospitals, healthcare payors or patients, we may not generate sufficient revenue from that product candidate and may not become or remain profitable. Our efforts to educate the medical community and third-party payors on the benefits of our lead product candidates or any future product candidates may require significant resources and may never be successful. In addition, our ability to successfully commercialize our product candidates will depend on our ability to manufacture our products, differentiate our products from competing products and defend and enforce our intellectual property rights relating to our products. Additionally, if the market opportunities for our lead product candidates or any future product candidates are smaller than we believe they are, our product revenues may be harmed and our business may suffer.

We focus our research and product development on treatments for severe genetic and orphan diseases. Our understanding of both the number of people who have these diseases, as well as the subset of people with these diseases who have the potential to benefit from treatment with our product candidates, are based on estimates. These estimates may prove to be incorrect and new studies may reduce the estimated incidence or prevalence of these diseases. The number of patients in the United States, the European Union and elsewhere may turn out to be lower than expected, may not be otherwise amenable to treatment with our products or patients may become increasingly difficult to identify and access, all of which would harm our business, financial condition, results of operations and prospects.

Further, there are several factors that could contribute to making the actual number of patients who receive any products we develop less than the potentially addressable market. These include the lack of widespread availability of, and limited reimbursement for, new therapies in many underdeveloped markets. Further, the severity of the progression of a disease up to the time of treatment, especially in certain degenerative conditions such as the conditions our lead product candidates are intended to treat, will likely diminish the therapeutic benefit conferred by a gene therapy due to irreversible cell death. Lastly, certain patients' immune systems might prohibit the successful delivery of certain gene therapy products to the target tissue, thereby limiting the treatment outcomes.

The insurance coverage and reimbursement status of newly-approved products is uncertain. Failure to obtain or maintain adequate coverage and reimbursement for our products, if approved, could limit our ability to market those products and decrease our ability to generate product revenue.

We expect the cost of a single administration of gene therapy products, such as those we are developing, to be substantial, when and if they achieve regulatory approval. We expect that coverage and reimbursement by government and private payors will be essential for most patients to be able to afford these treatments. Accordingly, sales of our product candidates will depend substantially, both domestically and abroad, on the extent to which the prices of our product candidates will be paid by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or will be reimbursed by government authorities, private health coverage insurers and other third-party payors. Coverage and reimbursement by a third-party payor may depend upon several 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.

Obtaining coverage and reimbursement for a product from third-party payors is a time-consuming and costly process that could require us to provide to the payor supporting scientific, clinical and cost-effectiveness data. We may not be able to provide data sufficient to gain acceptance with respect to coverage and reimbursement. If coverage and reimbursement are not available, or are available only at limited levels, we may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not be adequate to realize a sufficient return on our investment.

There is significant uncertainty related to third-party coverage and reimbursement of newly approved products, including potential one-time gene therapies. In the United States, third-party payors, including government payors such as the Medicare and Medicaid programs, play an important role in determining the extent to which new drugs and biologics will be covered and reimbursed. The Medicare and Medicaid programs increasingly are used as models for how private payors and government payors develop their coverage and reimbursement policies. It is difficult to predict what the Centers for Medicare & Medicaid Services (CMS), the agency responsible for administering the Medicare program, will decide with respect to coverage and reimbursement for fundamentally novel products such as ours, as there is no body of established practices and precedents for these types of products. We cannot be assured that Medicare or Medicaid will cover any of our products, if approved, or provide reimbursement at adequate levels to realize a sufficient return on our investment. Moreover, reimbursement agencies in the European Union may be more conservative than CMS. It is difficult to predict what third-party payors will decide with respect to the coverage and reimbursement for our product candidates.

Outside the United States, international operations generally are subject to extensive government price controls and other market regulations, and increasing emphasis on cost-containment initiatives in the European Union and other countries may put pricing pressure on us. In many countries, the prices of medical products are subject to varying price control mechanisms as part of national health systems. It also can take a significant amount of time after approval of a product to secure pricing and reimbursement for such product in many counties outside the United States. In general, the prices of medicines under such systems are substantially lower than in the United States. Other countries allow companies to fix their own prices for medical products, but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our product candidates. Accordingly, in markets outside the United States, the reimbursement for our products may be reduced compared with the reimbursement in the United States and may be insufficient to generate commercially reasonable product revenues.

Moreover, increasing efforts by government and third-party payors in the United States and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for new products approved and, as a result, they may not cover or provide adequate payment for our product candidates. Payors increasingly are considering new metrics as the basis for reimbursement rates, and the existing data for reimbursement based on some of these metrics is limited. Therefore, it may be difficult to project the impact of these evolving reimbursement metrics on the willingness of payors to cover candidate products that we or our partners are able to commercialize. 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 and additional legislative changes.

Additionally, our lead product candidates are designed to provide therapeutic benefit after a single administration and, therefore, the pricing and reimbursement of a single administration of our lead product candidates, if approved, must be adequate to support our commercial infrastructure. The downward pressure on healthcare costs in general, particularly prescription drugs and surgical procedures and other treatments, has become intense. As a result, increasingly high barriers are being erected to the entry of new products. If we are unable to obtain adequate levels of reimbursement, our ability to successfully market and sell our product candidates will be harmed. The manner and level at which reimbursement is provided for services related to our product candidates (e.g., for administration of our product to patients) is also important. Inadequate reimbursement for such services may lead to physician resistance and limit our ability to market or sell our products.

If we obtain approval to commercialize our product candidates outside of the United States, in particular in the European Union, a variety of risks associated with international operations could materially harm our business.

We expect that we will be subject to additional risks in commercializing our product candidates outside the United States, any of which could materially harm our business, which could include:

- different regulatory requirements for approval of drugs and biologics in foreign countries;
- reduced protection for intellectual property rights;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geopolitical actions, including war and terrorism or natural disasters including earthquakes, floods and fires.

Government price controls or other changes in pricing regulation could restrict the amount that we are able to charge for any of our product candidates, if approved, which would adversely affect our revenue and results of operations.

We expect that coverage and reimbursement of drugs and biologics may be increasingly restricted in the United States and internationally. The escalating cost of health care has led to increased pressure on the health care industry to reduce costs. In particular, pricing by biopharmaceutical companies recently has come under increased scrutiny and continues to be subject to intense political and public debate in the United States and abroad. Government and private third-party payors have proposed health care reforms and cost reductions of drugs and biologics. A number of federal and state proposals to control the cost of health care have been made in the United States. Specifically, there have been several recent U.S. Congressional inquiries and proposed federal and state bills designed to, among other things, bring more transparency to pricing, review the relationship between pricing and manufacturer patient programs and reform government program reimbursement methodologies. In some international markets, the government controls drug and biologic pricing, which can affect profitability.

We cannot predict the extent to which our business may be affected by these or other potential future legislative or regulatory developments. However, future price controls or other changes in pricing regulation or negative publicity related to the pricing of drugs and biologics generally could restrict the amount that we are able to charge for our future products, if any, which could adversely affect our revenue and results of operations.

Risks Related to Our Business Operations

We may not be successful in our efforts to identify or discover additional product candidates and may fail to capitalize on programs or product candidates that may be a greater commercial opportunity or for which there is a greater likelihood of success.

The success of our business depends upon our ability to identify, develop and commercialize product candidates based on our NAV Technology Platform. Research programs to identify new product candidates require substantial technical, financial and human resources. Although certain of our product candidates are currently in research studies or preclinical development, we may fail to identify potential product candidates for clinical development for several reasons. For example, our research may be unsuccessful in identifying potential product candidates or our potential product candidates may be shown to have harmful side effects, may be commercially impracticable to manufacture or may have other characteristics that may make the products unmarketable or unlikely to receive marketing approval.

Additionally, because we have limited resources, we may forego or delay pursuit of opportunities with certain programs or product candidates or for indications that later prove to have greater commercial potential. Our spending on current and future research and development programs may not yield any commercially viable products. If we do not accurately evaluate the commercial potential for a particular product candidate, we may relinquish valuable rights to that product candidate through strategic collaboration, licensing or other arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate. Alternatively, we may allocate internal resources to a product candidate in a therapeutic area in which it would have been more advantageous to enter into a partnering arrangement.

If any of these events occur, we may be forced to abandon our development efforts with respect to a particular product candidate or fail to develop a potentially successful product candidate, which could materially harm our business, financial condition, results of operations and prospects.

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

We are highly dependent on members of our executive team, the loss of any of whose services may adversely impact the achievement of our objectives. While we have entered into employment agreements with each of our executive officers, any of them could leave our employment at any time, as all of our employees are "at will" employees. We currently do not have "key person" insurance on any of our employees. The loss of the services of one or more of our current employees, consultants and advisors might impede the achievement of our research, development, licensing and commercialization objectives.

Recruiting and retaining other qualified employees, consultants and advisors for our business, including scientific and technical personnel is, and will continue to be, critical to our success. There currently is a shortage of skilled individuals with substantial gene therapy experience, which we believe is likely to continue. As a result, competition for skilled personnel, including in gene therapy research and vector manufacturing, is intense and the turnover rate can be high. We may not be able to attract and retain personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies and academic institutions for individuals with similar skill sets. In addition, failure to succeed in preclinical studies or clinical trials or applications for marketing approval may make it more challenging to recruit and retain qualified personnel. The inability to recruit, or loss of services of any of our key executives, employees, consultants or advisors may impede the progress of our research, development, licensing and commercialization objectives and materially harm our business, financial condition, results of operations and prospects.

If we are unable to manage expected growth in the scale and complexity of our operations, our performance may suffer.

If we are successful in executing our business strategy, we will need to expand our managerial, operational, financial and other systems and resources to manage our operations, continue our research and development and licensing activities and, in the longer term, build a sales and marketing infrastructure to support commercialization of any of our product candidates that are approved for sale. Future growth would impose significant added responsibilities on members of management. It is likely that our management, finance, development personnel, systems and facilities currently in place may not be adequate to support this future growth. Our need to effectively manage our operations, growth and product candidates requires that we continue to develop more robust business processes and improve our systems and procedures in each of these areas and to attract and retain sufficient numbers of talented employees. We may be unable to successfully implement these tasks on a larger scale and, accordingly, may not achieve our research, development and growth goals.

Our employees, principal investigators, consultants and commercial partners may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of fraud or other misconduct by our employees, principal investigators, consultants and commercial partners. Misconduct by these parties could include intentional failures to comply with FDA regulations or the regulations applicable in the European Union and other jurisdictions, provide accurate information to the FDA, the European Commission and other regulatory authorities, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and 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 restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Such misconduct also could involve the improper use of information obtained in the course of clinical trials or interactions with the FDA or other regulatory authorities, which could result in regulatory sanctions and cause serious harm to our reputation. We have adopted a code of business conduct applicable to all of our employees, but it is not always possible to identify and deter employee misconduct, 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 government investigations or other actions or lawsuits stemming from a failure to comply with these laws or 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, financial condition, results of operations and prospects, including the imposition of significant fines or other sanctions.

Healthcare legislative reform measures may materially harm our business and results of operations.

In the United States and some foreign jurisdictions, there have been, and continue to be, several legislative and regulatory initiatives regarding the healthcare system that could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities or affect our ability to profitably sell any product candidates for which we obtain marketing approval. For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (PPACA), was passed. PPACA made major changes in how healthcare is delivered and reimbursed, and increased access to health insurance benefits to the uninsured and underinsured population of the United States.

PPACA, among other things, increased the number of individuals with Medicaid and private insurance coverage, implemented reimbursement policies that tie payment to quality, facilitated the creation of accountable care organizations that may use capitation and other alternative payment methodologies, strengthened enforcement of fraud and abuse laws and encouraged the use of information technology.

Such changes in the regulatory environment may also result in changes to our payor mix that may affect our operations. While PPACA is expected to increase the number of persons with covered health benefits, we cannot accurately estimate the payment rates for any additional persons that are expected to be covered by health benefits. For example, PPACA's expansion of Medicaid coverage could cause patients who otherwise would have selected private healthcare to participate in government sponsored healthcare programs, and Medicaid and other government programs typically reimburse providers at substantially lower rates than private payors. Our revenue may be adversely impacted if states pursue lower rates or cost-containment strategies as a result of any expansion of their existing Medicaid programs to include additional persons, particularly in states experiencing budget deficits. Exchanges created to facilitate coverage for new persons to be covered by health benefits may also place additional pricing pressure on all providers, regardless of payor. The full impact of many of the provisions under PPACA, or the rules adopted under PPACA, is unknown at this time. Furthermore, PPACA may be modified, repealed or replaced with new regulations, and the full impact of any such modification, repeal or replacement is unknown at this time. For example, the TCJA repeals the individual mandate of PPACA beginning in 2019, which may reduce the number of individuals covered by health benefits. We cannot predict the ultimate content, timing or effect of any potential PPACA modification, repeal or replacement or any other healthcare reform legislation, or the effect of such potential changes on our business.

Additional changes that may affect our business include those governing enrollment in federal healthcare programs, reimbursement changes, rules regarding prescription drug benefits under the health insurance exchanges, rules regarding fraud and abuse, and enforcement. Continued implementation of PPACA, or the repeal or replacement of PPACA, and the passage of additional laws and regulations may result in the expansion of new programs such as Medicare payment for performance initiatives, and may impact existing government healthcare programs, such as by improving the physician quality reporting system and feedback program.

Other legislative changes have been proposed and adopted in the United States since PPACA was enacted. For example, the Budget Control Act of 2011, among other things, created the Joint Select Committee on Deficit Reduction, or the Joint Committee, to recommend proposals in spending reductions to Congress. The Joint Committee did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, triggering the legislation's automatic reduction to several government programs, including Medicare payments to healthcare providers of up to 2.0% per fiscal year, starting in 2013. In January 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, reduced Medicare payments to several categories of healthcare providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments and other third-party payors will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures and thereby adversely affect our business, financial condition and results of operations.

Various states, such as California, have also taken steps to consider and enact laws or regulations that are intended to increase the visibility of the pricing of biopharmaceutical products with the goal of reducing the prices at which such products can be sold. Because these various actual and proposed legislative changes are intended to operate on a state-by-state level rather than a national one, we cannot predict what the full effect of these legislative activities may be on our business in the future.

Additionally, in the United States, the Biologics Price Competition and Innovation Act of 2009 created an abbreviated approval pathway for biologic products that are demonstrated to be "highly similar" or "biosimilar or interchangeable" with an FDA-approved biologic product. This new pathway could allow competitors to reference data from biologic products already approved after 12 years from the time of approval. This could expose us to potential competition by lower-cost biosimilars even if we commercialize a product candidate faster than our competitors.

The delivery of healthcare in the European Union, including the establishment and operation of health services and the pricing and reimbursement of medicines, is almost exclusively a matter for national, rather than European Union, law and policy. National governments and health service providers have different priorities and approaches to the delivery of health care and the pricing and reimbursement of products in that context. In general, however, the healthcare budgetary constraints in most European Union Member States have resulted in restrictions on the pricing and reimbursement of medicines by relevant health service providers. Coupled with ever-increasing European Union and national regulatory burdens on those wishing to develop and market products, this could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to commercialize any products for which we obtain marketing approval. Furthermore, healthcare legislative reform measures in countries outside the United States and the European Union may materially delay or restrict our business activities or otherwise materially harm our business.

We may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws and health information privacy and security laws. If we are unable to comply, or have not fully complied, with such laws, we could face substantial penalties.

In the United States, the research, manufacturing, distribution, sale and promotion of drugs and biologics are potentially subject to regulation by various federal, state and local authorities in addition to the FDA, including CMS, other divisions of the U.S. Department of Health and Human Services (e.g., the Office of Inspector General), the U.S. Department of Justice offices of the U.S. Attorney, and state and local governments.

If we obtain the approval of the FDA, the European Commission or other regulatory authorities for any of our product candidates and begin commercializing those products in the United States or outside the United States, our operations will be directly, or indirectly through our prescribers, customers and purchasers, subject to various federal, state and foreign fraud and abuse laws and regulations, including, without limitation, the federal Health Care Program Anti-Kickback Statute, the federal civil and criminal False Claims Act and Physician Payments Sunshine Act and regulations, and similar laws in foreign jurisdictions. These laws will impact, among other things, our proposed sales, marketing and educational programs. In addition, we may be subject to patient privacy laws by both the federal government and the states in which we conduct our business. The laws that will affect our operations include, but are not limited to:

- the federal Health Care Program Anti-Kickback Statute, which prohibits, among other things, persons or entities from knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe or rebate), directly or indirectly, overtly or covertly, in cash or in kind, in return for the purchase, recommendation, leasing or furnishing of an item or service reimbursable under a federal healthcare program, such as the Medicare and Medicaid programs. This statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand, and prescribers, purchasers and formulary managers on the other. Liability may be established under the federal Anti-Kickback Statute without proving actual knowledge of the statute or specific intent to violate it;
- federal civil and criminal false claims laws 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 Medicare, Medicaid or other government payors that are false or fraudulent. PPACA provides and recent government cases against pharmaceutical and medical device manufacturers support the view that federal Anti-Kickback Statute violations and certain marketing practices, including off-label promotion, may implicate the False Claims Act;
- the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA), which created new federal criminal statutes that prohibit a person from knowingly and willfully executing a scheme or from making false or fraudulent statements to defraud any healthcare benefit program, regardless of the payor (e.g., public or private);
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (HITECH), and its implementing regulations, and as amended again by the final HIPAA omnibus rule, Modifications to the HIPAA Privacy, Security, Enforcement, and Breach Notification Rules Under HITECH and the Genetic Information Nondiscrimination Act;
- Other Modifications to HIPAA, published in January 2013, which imposes certain requirements relating to the privacy, security and transmission of individually identifiable health information without appropriate authorization by entities subject to the rule, such as health plans, health care clearinghouses and health care providers;
- federal transparency laws, including the federal Physician Payment Sunshine Act, that require disclosure of payments and other transfers of value provided to physicians and teaching hospitals, and ownership and investment interests held by physicians and other healthcare providers and their immediate family members and applicable group purchasing organizations; and

- state and foreign law equivalents of each of the above federal laws, state 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 laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts in certain circumstances, such as specific disease states.

Because of the breadth of these laws and the narrowness of the 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. If our operations are found to be in violation of any of the laws described above or any other government regulations that apply to us, we may be subject to penalties, including civil and criminal penalties, damages, fines, exclusion from participation in government health care programs, such as Medicare and Medicaid, imprisonment and the curtailment or restructuring of our operations, any of which could harm our ability to operate our business and our results of operations.

The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is prohibited in the European Union. The provision of benefits or advantages to physicians is also governed by the national anti-bribery laws of European Union Member States, such as the UK Bribery Act 2010. Infringement of these laws could result in substantial fines and imprisonment.

Payments made to physicians in certain European Union Member States must be publically disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization and/or the regulatory authorities of the individual European Union Member States. These requirements are provided in the national laws, industry codes or professional codes of conduct, applicable in the European Union Member States. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

The collection and use of personal health data in the European Union is governed by the General Data Protection Regulation (GDPR) and Member States' national data protection laws. GDPR imposes several requirements relating to the consent of the individuals to whom the personal data relates, the information provided to the individuals, the security and confidentiality of the personal data, data breach notification and using third party processors in connection with the processing of the personal data. GDPR also imposes strict rules on the transfer of personal data out of the European Union, including to the United States. Failure to comply with the requirements of GDPR and the applicable national data protection laws of the European Union Member States may result in fines and other administrative penalties. GDPR includes substantial fines for breaches of the data protection rules. GDPR may increase our responsibility and liability in relation to personal data that we process. To comply with the data protection rules imposed by GDPR, we may be required to put in place additional mechanisms ensuring compliance. This may be onerous and adversely affect our business, financial condition, results of operations and prospects.

Product liability lawsuits against us could cause us to incur substantial liabilities and could limit licensing of our NAV Technology Platform or commercialization of any product candidates that we may develop.

We face an inherent risk of product liability exposure related to our licensed NAV Technology Platform and the testing of our product candidates in clinical trials and may face an even greater risk if products utilizing our NAV Technology Platform are commercialized. If we cannot successfully defend ourselves against claims that our technology or product candidates caused injuries, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for our technology, including any product candidates that we may develop;
- loss of revenue;
- substantial monetary awards to trial participants or patients;
- significant time and costs to defend the related litigation;
- withdrawal of clinical trial participants;
- the inability to license our NAV Technology Platform or commercialize any product candidates that we may develop; and
- injury to our reputation and significant negative media attention.

Although we maintain product liability insurance coverage, this insurance may not be adequate to cover all liabilities that we may incur. We anticipate that we will evaluate the need to increase our insurance coverage each time we commence a clinical trial and may from time to time purchase additional coverage for clinical trials. We may need to increase our product liability insurance coverage if we successfully commercialize any product candidates. Insurance coverage is increasingly expensive and we may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

If we, our development partners, including our NAV Technology Licensees, or our third-party manufacturers or suppliers fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could materially harm the success of our business.

We, our development partners, including our NAV Technology Licensees, and our third-party manufacturers and suppliers are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the generation, handling, use, storage, treatment, manufacture, transportation and disposal of, and exposure to, hazardous materials and wastes, as well as laws and regulations relating to occupational health and safety. Our operations involve the use of hazardous and flammable materials, including chemicals and biologic and radioactive materials. Our operations and the operations of our development partners and third-party manufacturers and suppliers also produce hazardous waste products. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from the use of hazardous materials by us, our development partners or our third-party manufacturers or suppliers, 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.

Although we maintain workers' compensation insurance for certain costs and expenses we may incur due to work-related injuries to our employees, this insurance may not provide adequate coverage against potential liabilities. Although we maintain insurance for claims that may be asserted against us in connection with our storage or disposal of biologic, hazardous or radioactive materials, this insurance may not be adequate to cover all liabilities that we may incur in connection with such claims.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations, which have tended to become more stringent over time. These current or future laws and regulations may impair us or our development partners', including our NAV Technology Licensees', research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions or liabilities, which could materially harm our business, financial condition, results of operations and prospects.

Unfavorable global economic conditions could harm our business, financial condition or results of operations.

Our results of operations could be harmed by general conditions in the global economy and in the global financial markets. A severe or prolonged economic downturn could result in a variety of risks to our business, including weakened demand for our product candidates and our ability to raise additional capital when needed on acceptable terms, if at all. For example, the global financial crisis of 2007-2008 and the ongoing European economic crisis caused extreme volatility and disruptions in the capital and credit markets. A weak or declining economy could strain our suppliers, possibly resulting in supply disruption, or cause delays in payments for our services by third-party payors or our future collaborators. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could harm our business.

Additionally, in June 2016, a majority of United Kingdom (UK) voters voted for the UK to exit the European Union (Brexit) and in March 2017, the UK government provided official legal notification to the European Union that the UK will exit the European Union. The timing and completion of Brexit is subject to judicial and parliamentary developments in the UK, as well as any legal challenges. The economic effects of Brexit will depend on any agreements the UK makes to retain access to European Union markets either during a transitional period or more permanently. Brexit could adversely affect European and worldwide economic or market conditions and could contribute to instability in global financial markets. Brexit is likely to lead to legal uncertainty and potentially divergent national laws and regulations as the UK determines which European Union laws to replace or replicate. Any of these effects of Brexit, and any other effects we cannot anticipate, could adversely affect our business, business opportunities, results of operations, financial condition and cash flows.

We and third parties on which we rely may be harmed by natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Natural disasters could severely disrupt our operations or the operations of our third parties' manufacturing or supply facilities and materially harm our business, financial condition, results of operations and prospects. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place currently are limited and may not prove adequate in the event of a serious disaster or similar event. Our third party manufacturing and supply facilities, as well as substantially all of our current supply of product candidates, are located in a small number of geographic locations, and should a natural disaster, power outage or other event occur that affects one of our third party manufacturing or supply facilities, manufacturing or supply delays may result should we need to transfer manufacturing or supply operations to another facility. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which could materially harm our business, financial condition, results of operations and prospects.

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 licensing and product development programs.

Our internal computer systems and those of our current and any future collaborators and other contractors or consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. While we have not experienced any such material system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our licensing and development programs and our business operations, whether due to a loss of our trade secrets or other proprietary information or other similar disruptions. For example, the loss of clinical trial data from completed or future clinical trials 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 licensing of our NAV Technology Platform and development and commercialization of our product candidates could be delayed.

We are increasingly dependent on information technology systems, infrastructure and data.

We are increasingly dependent upon information technology systems, infrastructure and data. Our computer systems may be vulnerable to service interruption or destruction, malicious intrusion and random attack. Security breaches pose a risk that sensitive data, including intellectual property, trade secrets or personal information may be exposed to unauthorized persons or to the public. 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, social engineering and other means to affect service reliability and threaten data confidentiality, integrity and availability. Our key business partners face similar risks, and a security breach of their systems could adversely affect our security posture. While we continue to invest in data protection and information technology, there can be no assurance that our efforts will prevent service interruptions, or identify breaches in our systems, that could adversely affect our business and operations and/or result in the loss of critical or sensitive information, which could result in financial, legal, business or reputational harm.

Our customers are concentrated and therefore the loss of a significant customer may harm our business.

We rely on third parties for aspects of our business. Our revenue for the nine months ended September 30, 2018 and the year ended December 31, 2017 consisted primarily of license revenue. One customer accounted for approximately 99% of our total revenue for the nine months ended September 30, 2018. One customer accounted for approximately 68% of our total revenue for the year ended December 31, 2017. No other customer accounted for more than 10% of revenue for the year ended December 31, 2017. Future license revenue is uncertain due to the contingent nature of our licenses granted to third-parties.

Risks Related to Our Intellectual Property

Our rights to license our NAV Technology Platform and to develop and commercialize our product candidates are subject, in part, to the terms and conditions of licenses granted to us by others.

We are heavily reliant upon licenses to certain patent rights and proprietary technology from third parties that are important or necessary to the development of our technology and products, including technology related to our manufacturing process and our gene therapy product candidates. These and other licenses may not provide exclusive rights to use such intellectual property and technology in all relevant fields of use and in all territories in which we may wish to license our platform or develop or commercialize our technology and products in the future. As a result, we may not be able to prevent competitors from developing and commercializing competitive products in territories not included in all of our licenses. For example, under our license agreement with GSK, GSK retained certain exclusive and non-exclusive rights under the patent rights that it licensed from Penn.

Licenses to additional third-party technology that may be required for our licensing or development programs may not be available in the future or may not be available on commercially reasonable terms, or at all, which could materially harm our business and financial condition.

In some circumstances, we may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain or enforce the patents, covering technology that we license from third parties. For example, under our license agreement with Penn, Penn is entitled to control the preparation, prosecution and maintenance of the patent rights licensed to us. However, if we determine that we desire a greater degree of control over such patent rights, the Penn license agreement provides that Penn will work in good faith with us to enter into an arrangement for such additional control with reimbursement by us of certain expenses. If our licensors fail to maintain such patents, or lose rights to those patents or patent applications, the rights we have licensed may be reduced or eliminated and our right to develop and commercialize any of our products that are the subject of such licensed rights could be impacted. In addition to the foregoing, the risks associated with patent rights that we license from third parties will also apply to patent rights we may own in the future.

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

If we are unable to obtain and maintain patent protection for our products and technology, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to successfully license our NAV Technology Platform and commercialize our products and technology may be harmed.

Our success depends, in large part, on our ability to obtain and maintain patent protection in the United States and other countries with respect to our proprietary NAV Technology Platform, our product candidates and our manufacturing technology. Our licensors have sought and we intend to seek to protect our proprietary position by filing patent applications in the United States and abroad related to many of our novel technologies and product candidates that are important to our business.

The patent prosecution process is expensive, time-consuming and complex, and we may not be able to file, prosecute, maintain, enforce or license all necessary or desirable patent applications at a reasonable cost or in a timely manner. In addition, certain patents in the field of gene therapy that may have otherwise potentially provided patent protection for certain of our product candidates have expired or will soon expire. In some cases, the work of certain academic researchers in the gene therapy field has entered the public domain, which we believe precludes our ability to obtain patent protection for certain inventions relating to such work. 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.

We are a party to intellectual property license agreements with GSK and Penn, each of which is important to our business, and other entities and we expect to enter into additional license agreements in the future. Our existing license agreements impose, and we expect that future license agreements will impose, various diligence, development and commercialization timelines, milestone payments, royalties and other obligations on us. If we or our licensees fail to comply with our obligations under these agreements, or we are subject to a bankruptcy, the licensor may have the right to terminate the license, in which event we would not be able to market products covered by the license.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has, in recent years, been the subject of much litigation. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not result in patents being issued which protect our technology or product candidates or which effectively prevent others from commercializing competitive technologies and product candidates. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection.

We may not be aware of all third-party intellectual property rights potentially relating to our technology and product candidates. Publications of discoveries in the scientific literature often lag the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing or, in some cases, not at all. Therefore, we cannot be certain that we were the first to make the inventions claimed in any owned or any licensed patents or pending patent applications, or that we were the first to file for patent protection of such inventions.

Even if the patent applications we license or may own in the future do issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors or other third parties from competing with us or otherwise provide us with any competitive advantage. Our competitors or other third parties may avail themselves of safe harbor under the Drug Price Competition and Patent Term Restoration Act of 1984 (the Hatch-Waxman Amendments) to conduct research and clinical trials and may be able to circumvent our patents by developing similar or alternative technologies or products in a non-infringing manner.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or in patent claims being narrowed, invalidated or held unenforceable, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and product candidates. 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 intellectual property may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

Our intellectual property licenses with third parties may be subject to disagreements over contract interpretation, which could narrow the scope of our rights to the relevant intellectual property or technology or increase our financial or other obligations to our licensors.

The agreements under which we currently license intellectual property or technology from third parties are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could materially harm our business, financial condition, results of operations and prospects.

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

We have entered into license agreements with third parties and may need to obtain additional licenses from others to advance our research, to expand our licensing program or to allow commercialization of our product candidates. It is possible that we may be unable to obtain additional licenses at a reasonable cost or on reasonable terms, if at all. In that event, we may be required to expend significant time and resources to redesign our technology or product candidates or the methods for manufacturing them or to develop or license replacement technology, all of which may not be feasible on a technical or commercial basis. If we are unable to do so, we may be unable to redesign our platform technology or to develop or commercialize the affected product candidates, which could materially harm our business. We cannot provide any assurances that third-party patents do not exist which might be enforced against our current platform technology, manufacturing methods, product candidates or future methods or products, resulting in either an injunction prohibiting our licensing, manufacture or sales, or, with respect to our sales, an obligation on our part to pay royalties and/or other forms of compensation to third parties.

In each of our existing license agreements, and we expect in our future agreements, patent prosecution of our licensed technology is controlled primarily by the licensor, and we are required to reimburse the licensor for certain costs of patent prosecution and maintenance. If our licensors fail to obtain and maintain patent or other protection for the proprietary intellectual property we license from them, we could lose our rights to the intellectual property or our exclusivity with respect to those rights, and our competitors could market competing products using the intellectual property. Further, in each of our license agreements we could be responsible for bringing actions against any third party for infringing on the patents we have licensed if our licensor elects not to enforce its rights against the infringing third party. Certain of our license agreements in which we are the licensee also require us to meet development milestones to maintain the license, including establishing a set timeline for developing and commercializing products and minimum diligence obligations in developing and commercializing the product. Disputes may arise regarding intellectual property subject to a licensing agreement, including:

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

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates.

We may not be successful in obtaining necessary rights to our product candidates through acquisitions and in-licenses.

We currently have rights to intellectual property, through licenses from third parties, to develop our product candidates. Because our programs may require the use of intellectual property or other proprietary rights held by third parties, the growth of our business may depend, in part, on our ability to acquire, in-license or use such intellectual property and proprietary rights. We may be unable to acquire or in-license any compositions, methods of use, processes (and patents for such technology) or other intellectual property rights from third parties that we identify as necessary for our technology platform and product candidates. The licensing or acquisition of third-party intellectual property rights is a competitive area, and several more established companies may pursue strategies to license or acquire third-party intellectual property rights that we may consider attractive. These established companies may have a competitive advantage over us due to their size, capital resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to license rights to us. We also may be unable to license or acquire third party intellectual property rights on terms that would allow us to make an appropriate return on our investment.

We sometimes collaborate with non-profit and academic institutions to accelerate our preclinical research or development under written agreements with these institutions. Some of these institutions may provide us with an option to negotiate a license to any of the institution’s rights in technology resulting from the collaboration, and any patentable inventions developed under our sponsored research agreement entered into with Penn in December 2014 automatically accrue to our existing license with Penn. 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.

If we are unable to successfully obtain rights to required third-party intellectual property rights or maintain the existing intellectual property rights we have, we may have to abandon development of the relevant program or product candidate and our business, financial condition, results of operations and prospects could suffer.

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

Periodic maintenance fees, renewal fees, annuity fees and various other government fees on patents and/or applications will be due to be paid to the U.S. Patent and Trademark Office (the USPTO) and various patent agencies outside of the United States over the lifetime of our licensed patents and/or applications and any patent rights we may own or license in the future. We rely on our licensing partners to pay these fees due to non-U.S. patent agencies with respect to our licensed patent rights. The USPTO and various non-U.S. patent agencies require compliance with several procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply and we are also dependent on our licensors to take the necessary action to comply with these requirements with respect to our licensed intellectual property. In many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. There are situations, however, in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, potential competitors might be able to enter the market and this circumstance could materially harm our business.

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

Filing, prosecuting and defending patents on our platform technology or product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States could be less extensive than those in the United States. Although our license agreements with Penn and GSK grant us worldwide rights, certain of our in-licensed U.S. patent rights lack corresponding foreign patents or patent applications. For example, under our license agreement with Minnesota, our rights are limited to those countries and territories, including the United States, in which a licensed patent has been issued and is unexpired or a licensed patent application is pending. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our 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 is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. 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.

Issued patents covering our NAV Technology Platform or our product candidates could be found invalid or unenforceable if challenged in court. We may not be able to protect our trade secrets in court.

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

In addition to the protection afforded by patents, we rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable or that we elect not to patent, processes for which patents are difficult to enforce and any other elements of our technology, product candidate discovery and development processes that involve proprietary know-how, information or technology that is not covered by patents. However, trade secrets can be difficult to protect and some courts inside and outside the United States are less willing or unwilling to protect trade secrets. We seek to protect our proprietary technology and processes, in part, by entering into confidentiality agreements with our employees, consultants, scientific advisors and contractors. We cannot guarantee that we have entered into such agreements with each party that may have or have had access to our trade secrets or proprietary technology and processes. We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we have confidence in these individuals, organizations and systems, agreements or security measures may be breached, and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors.

Third parties may initiate legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could materially harm our business.

Our commercial success depends, in part, upon our ability to license our NAV Technology Platform, and on our NAV Technology Licensees' ability to develop, manufacture, market and sell our product candidates and use our proprietary technologies without infringing or otherwise violating the proprietary rights and intellectual property of third parties. The biotechnology and pharmaceutical industries are characterized by extensive and complex litigation regarding patents and other intellectual property rights. We may in the future become party to, or be threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our product candidates and technology, including interference proceedings, post grant review and *inter partes* review before the USPTO. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of their merit. There is a risk that third parties may choose to engage in litigation with us to enforce or to otherwise assert their patent rights against us. Even if we believe such claims are without merit, a court of competent jurisdiction could hold that these third-party patents are valid, enforceable and infringed, which could materially harm our ability to license our technology platform or commercialize our lead product candidates or any future product candidates or technologies covered by the asserted third-party patents. In order to successfully challenge the validity of any such U.S. patent in federal court, we would need to overcome a presumption of validity. As this burden is a high one requiring us to present clear and convincing evidence as to the invalidity of any such U.S. patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent. If we are found to infringe a third party's valid and enforceable intellectual property rights, we could be required to obtain a license from such third party to continue licensing, developing, manufacturing and marketing our product candidates 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 and other third parties access to the same technologies licensed to us, and it could require us to make substantial licensing and royalty payments. We could be forced, including by court order, to cease licensing, developing, manufacturing and commercializing the infringing technology or product candidates. 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 or other intellectual property right. A finding of infringement could prevent us from licensing our technology platform or manufacturing and commercializing our product candidates or force us to cease some of our business operations, which could materially harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could similarly harm our business, financial condition, results of operations and prospects.

Intellectual property litigation could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

Competitors may infringe our patents or the patents of our licensing partners, or we may be required to defend against claims of infringement or that our intellectual property is invalid or unenforceable. To counter infringement or unauthorized use claims or to defend against claims of infringement or other intellectual property related claims can be expensive and time consuming. Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could materially harm the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. Uncertainties resulting from the initiation and continuation of patent and other intellectual property litigation or proceedings could materially harm our ability to compete in the marketplace.

We may be subject to claims asserting that our employees, consultants or advisors have wrongfully used or disclosed alleged trade secrets of their current or former employers or claims asserting ownership of what we regard as our own intellectual property.

Many of our employees, consultants or advisors are currently, or were previously, employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees, consultants and advisors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that these individuals or we have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such individual's current or former employer. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property that we regard as our own. The assignment of intellectual property rights may not be self-executing or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property.

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

Recent patent reform legislation could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents. On September 16, 2011, the Leahy-Smith America Invents Act (the Leahy-Smith Act) was signed into law. The Leahy-Smith Act includes several significant changes to U.S. patent law. These include provisions that affect the way patent applications are prosecuted and also may affect patent litigation. These also include provisions that switched the United States from a "first-to-invent" system to a "first-to-file" system, allow third-party submission of prior art to the USPTO during patent prosecution and set forth additional procedures to attack the validity of a patent by the USPTO administered post grant proceedings. Under a first-to-file system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to the patent on an invention regardless of whether another inventor had made the invention earlier. The USPTO recently developed new regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, and in particular, the first to file provisions, only became effective on March 16, 2013. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could materially harm our business, financial condition, results of operations and prospects.

The patent positions of companies engaged in the development and commercialization of biologics and pharmaceuticals are particularly uncertain. Two cases involving diagnostic method claims and "gene patents" have recently been decided by the Supreme Court of the United States (the Supreme Court). On March 20, 2012, the Supreme Court issued a decision in Mayo Collaborative Services v. Prometheus Laboratories, Inc. (Prometheus), a case involving patent claims directed to a process of measuring a metabolic product in a patient to optimize a drug dosage for the patient. According to the Supreme Court, the addition of well-understood, routine or conventional activity such as "administering" or "determining" steps was not enough to transform an otherwise patent-ineligible natural phenomenon into patent-eligible subject matter. On July 3, 2012, the USPTO issued a guidance memo to patent examiners indicating that process claims directed to a law of nature, a natural phenomenon or a naturally occurring relation or correlation that do not include additional elements or steps that integrate the natural principle into the claimed invention such that the natural principle is practically applied and the claim amounts to significantly more than the natural principle itself should be rejected as directed to not patent-eligible subject matter. On June 13, 2013, the Supreme Court issued its decision in Association for Molecular Pathology v. Myriad Genetics, Inc. (Myriad), a case involving patent claims held by Myriad relating to the breast cancer susceptibility genes BRCA1 and BRCA2. Myriad held that an isolated segment of naturally occurring DNA, such as the DNA constituting the BRCA1 and BRCA2 genes, is not patent eligible subject matter, but that complementary DNA, which is an artificial construct that may be created from RNA transcripts of genes, may be patent eligible.

The USPTO has issued a number of guidance memoranda to instruct USPTO examiners on the ramifications of the Prometheus and Myriad rulings and the application of the Myriad ruling to natural products and principles including all naturally occurring nucleic acids. The USPTO's guidance may be further updated in view of developments in the case law and in response to public feedback. Patents for certain of our product candidates contain claims related to specific DNA sequences that are naturally occurring and, therefore, could be the subject of future challenges made by third parties. In addition, the recent USPTO guidance could make it impossible for us to pursue similar patent claims in patent applications we may prosecute in the future.

We cannot assure you that our efforts to seek patent protection for our technology and products will not be negatively impacted by the decisions described above, rulings in other cases or changes in guidance or procedures issued by the USPTO. We cannot fully predict what impact the Supreme Court's decisions in Prometheus and Myriad may have on the ability of life science companies to obtain or enforce patents relating to their products and technologies in the future. These decisions, the guidance issued by the USPTO and rulings in other cases or changes in USPTO guidance or procedures could materially harm our existing patent portfolio and our ability to protect and enforce our intellectual property in the future.

Moreover, although the Supreme Court has held in Myriad that isolated segments of naturally occurring DNA are not patent-eligible subject matter, certain third parties could allege that activities that we may undertake infringe other gene-related patent claims, and we may deem it necessary to defend ourselves against these claims by asserting non-infringement and/or invalidity positions, or paying to obtain a license to these claims. In any of the foregoing or in other situations involving third-party intellectual property rights, if we are unsuccessful in defending against claims of patent infringement, we could be forced to pay damages or be subjected to an injunction that would prevent us from utilizing the patented subject matter. Such outcomes could harm our business, financial condition, results of operations or prospects.

If we do not obtain patent term extension and data exclusivity for our product candidates, our business may be materially harmed.

Depending upon the timing, duration and specifics of any FDA marketing approval of our product candidates, one or more of our U.S. patents may be eligible for limited patent term extension under the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent extension term of up to five years as compensation for patent term lost during the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent may be extended and only those claims covering the approved drug, a method for using it or a method for manufacturing it may be extended. However, we may not be granted an extension because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or the term of any such extension is less than we request, our competitors may obtain approval of competing products following our patent expiration, and our revenue could be reduced, possibly materially.

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 harmed.

We have registered trademarks with the USPTO for the marks "NAV" and "REGENXBIO," as well as for the REGENXBIO logos. Our 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 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 registered or unregistered trademarks or trade names. Over the long-term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be harmed. 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 harm our financial condition or results of operations.

Intellectual property rights do not necessarily address all potential threats.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business or permit us to maintain our competitive advantage. For example:

- others may be able to make gene therapy products that are similar to our product candidates or utilize similar gene therapy technology but that are not covered by the claims of the patents that we license or may own in the future;
- we, or our current or future license partners or collaborators, might not have been the first to make the inventions covered by the issued patent or pending patent application that we license or may own in the future;
- we, or our current or future license partners or collaborators, might not have been the first to file patent applications covering certain of our or their inventions;

- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our owned or licensed intellectual property rights;
- it is possible that our pending licensed patent applications or those that we may own in the future will not lead to issued patents;
- issued patents that we hold rights to may be held invalid or unenforceable, including as a result of legal challenges by our competitors;
- our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- we may not develop additional proprietary technologies that are patentable;
- the patents of others may harm our business; and
- we may choose not to file a patent for certain trade secrets or know-how, and a third party may subsequently file a patent covering such intellectual property.

Should any of these events occur, they could materially harm our business, financial condition, results of operations and prospects.

Risks Related to Ownership of Our Common Stock

The price of our common stock may be volatile and fluctuate substantially, which could result in substantial losses for holders of our common stock.

Our stock price is likely to be volatile. In recent years, the stock market in general, and the market for biotechnology or pharmaceutical companies in particular, has experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, our stockholders may not be able to sell their shares of our common stock at or above the price they paid for their shares. The market price of our common stock could be subject to wide fluctuations in response to various factors, many of which are beyond our control. These factors include those discussed elsewhere in this “Risk Factors” section and others such as:

- the delay or failure in initiating or completing preclinical studies or clinical trials, or unsatisfactory results of these trials;
- announcements about us or about our competitors including clinical trial results, regulatory approvals, or new product candidate introductions;
- developments concerning our current or future development partners, licensors or product candidate manufacturers;
- developments or changing views regarding the use of gene therapy;
- litigation and other developments relating to our patents or other proprietary rights or those of our competitors;
- conditions in the pharmaceutical or biotechnology industries and the economy as a whole;
- governmental regulation and legislation;
- the recruitment or departure of members of our board of directors, management team or other key personnel;
- changes in our operating results;
- any changes in the financial projections we may provide to the public, our failure to meet these projections, or changes in recommendations by any securities analysts that elect to follow our common stock;
- any change in securities analysts’ estimates of our performance, or our failure to meet analysts’ expectations;
- the expiration of market standoff or contractual lock-up agreements;
- sales or potential sales of substantial amounts of our common stock; or
- price and volume fluctuations in the overall stock market or resulting from inconsistent trading volume levels of our shares.

In the past, following periods of volatility in the overall market and the market price of a particular company's securities, securities class action litigation has often been instituted against these companies. This litigation, if instituted against us, could cause us to incur substantial costs to defend such claims and divert our management's attention and resources, which could seriously harm our business, financial condition, results of operations and prospects.

Our quarterly operating results may fluctuate substantially, which may cause the price of our common stock to fluctuate substantially.

We expect our quarterly operating results to be subject to fluctuations. Our net income or loss and other operating results may be affected by numerous factors, including:

- any variations in the level of expenses related to our NAV Technology Platform and lead product candidates;
- the addition or termination of any clinical trials;
- any regulatory or clinical developments affecting our lead product candidates, any future product candidates or our NAV Technology Licensees' product candidates;
- our execution of any collaborative, licensing or similar arrangements, including with our NAV Technology Licensees, and the timing of any payments we may make or receive under these arrangements; and
- the nature and terms of any stock-based compensation grants and any intellectual property infringement lawsuits in which we may become involved.

If our quarterly operating results fall below the expectations of investors or securities analysts, the price of our common stock could decline substantially. Furthermore, any quarterly fluctuations in our operating results may, in turn, cause the price of our stock to fluctuate substantially. We believe that quarterly comparisons of our financial results are not necessarily meaningful and should not be relied upon as an indication of our future performance.

If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our stock, the price of our stock could decline.

The trading market for our common stock relies, in part, on the research and reports that industry or financial analysts publish about us or our business. If additional analysts do not commence coverage of us, the trading price of our stock may decrease. Additionally, if one or more of the analysts covering our business downgrade their evaluations of our stock, the price of our stock could decline. If one or more of these analysts cease to cover our stock, we could lose visibility in the market for our stock, which in turn could cause our stock price to decline.

Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish proprietary rights.

We may seek to raise additional capital through public or private equity offerings, debt financings, strategic partnerships, licensing arrangements or other means. We have an effective shelf registration statement on file with the SEC, which could allow us to access capital in a timely manner. To the extent that we raise additional capital by issuing equity securities, the share ownership of existing stockholders will be diluted. Any future debt financing may involve covenants that restrict our operations, including limitations on our ability to incur liens or additional debt, pay dividends, redeem our stock, make certain investments or engage in certain merger, consolidation, or asset sale transactions. In addition, if we seek funds through arrangements with collaborative partners, these arrangements may require us to relinquish rights to some of our technologies or products or otherwise agree to terms unfavorable to us.

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

Our management has broad discretion in the application of our cash and cash equivalents. Because of the number and variability of factors that will determine our use of our cash and cash equivalents, their ultimate use may vary substantially from their currently intended use. Our management might not apply our cash and cash equivalents in ways that ultimately increase the value of your investment. The failure by our management to apply our cash and cash equivalents effectively could harm our business. Pending their use, we may invest our cash and cash equivalents in a variety of capital preservation investments, including short-term, interest-bearing, investment-grade instruments and U.S. government securities. These investments may not yield a favorable return to our stockholders.

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

We have never declared or paid cash dividends on our capital stock, and we currently intend to retain all of our future earnings, if any, to finance the development and growth of our business. In addition, the terms of any future debt agreements may preclude us from paying dividends. Therefore, our stockholders are not likely to receive any dividends on our common stock for the foreseeable future or at all and their ability to receive a return on their investment will depend on any future appreciation in the market value of our common stock. There is no guarantee that our common stock will appreciate or even maintain the price at which our stockholders have purchased it.

Our executive officers, directors and principal stockholders own a significant percentage of our stock and maintain the ability to exert substantial influence over matters subject to stockholder approval.

Our executive officers, directors, holders of more than five percent of our capital stock and their respective affiliates beneficially own a significant percentage of our outstanding capital stock. As a result, these stockholders may be able to exert substantial influence over all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these stockholders may be able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets or other major corporate transaction. This concentration of voting power could delay or prevent an acquisition of our company on terms that other stockholders may desire or result in management of our company with which our public stockholders disagree.

Substantial future sales of shares by existing stockholders, including pursuant to our equity incentive plans, or the perception that such sales may occur, could cause our stock price to decline, even if our business is performing well.

If our existing stockholders, particularly our directors and executive officers and the entities affiliated with our current and former directors, sell substantial amounts of our common stock in the public market, or are perceived by the public market as intending to sell substantial amounts of our common stock, the trading price of our common stock could decline.

Shares of common stock that are either subject to outstanding options or reserved for future issuance under our employee benefit plans will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules and Rule 144 and Rule 701 under the Securities Act of 1933, as amended. Additionally, some of our existing stockholders have demand and piggyback rights to require us to register with the SEC up to a certain number of shares of our common stock. If we register these shares of common stock, the stockholders would be able to sell those shares freely in the public market, subject to Rule 144 transfer restrictions applicable to affiliates. We registered 5,057,458 shares of common stock held by certain of our stockholders in a registration statement on Form S-3 filed with the SEC on December 16, 2016 and declared effective as of January 6, 2017. Such stockholders are able to freely trade such shares of common stock.

Furthermore, certain of our employees, directors, officers or affiliates have entered into Rule 10b5-1 plans providing for transactions of our securities from time to time. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the securityholder when entering into the plan, without further direction from the securityholder. Accordingly, sales under these plans may occur at any time, including possibly before, simultaneously with, or immediately after significant events involving us. A Rule 10b5-1 plan may be amended or terminated in some circumstances. If any additional shares of our common stock are sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline. We do not undertake to report the entry into, or the amendment or termination of, any Rule 10b5-1 plans adopted by our employees, directors, officers or affiliates in the future, except to the extent required by law.

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

Shares of our common stock began trading on The Nasdaq Global Select Market on September 17, 2015. Given the limited trading history of our common stock, there is a risk that an active trading market for our shares may not continue to develop or be sustained. If an active market for our common stock does not continue to develop or is not sustained, it may be difficult for our stockholders to sell shares without depressing the market price for the shares, or at all.

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

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

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

In addition, if we undertake acquisitions, we may issue dilutive securities, assume or incur debt obligations, incur large one-time expenses and acquire intangible assets that could result in significant future amortization expense. Moreover, we may not be able to locate suitable acquisition opportunities and this inability could impair our ability to grow or obtain access to technology or products that may be important to the development of our business.

Commencing January 1, 2019, we will no longer be an emerging growth company and the reduced disclosure and governance requirements applicable to emerging growth companies will no longer apply to us.

We currently are an emerging growth company, as defined in the JOBS Act. Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

As of June 30, 2018, the market value of our common stock that was held by non-affiliates exceeded $700 million and, therefore, we will be a large accelerated filer and will no longer qualify for emerging growth company status commencing January 1, 2019. As a large accelerated filer, we will be subject to certain disclosure requirements that are applicable to other public companies that have not been applicable to us as an emerging growth company, beginning with our Annual Report on Form 10-K for the fiscal year 2018. These requirements include:

- compliance with the auditor attestation requirements of Section 404;
- compliance with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the financial statements (auditor discussion and analysis);
- full disclosure obligations regarding executive compensation; and
- compliance with the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

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

As a public company, we incur, and particularly commencing January 1, 2019, when we will no longer be an emerging growth company, we will incur further, significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act of 2002 and rules subsequently implemented by the SEC and Nasdaq have imposed various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance as a public company.

Pursuant to 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. Commencing January 1, 2019, when we will no longer be an emerging growth company, we will be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. In an effort to achieve compliance with Section 404 within the prescribed period, we have incurred costs associated with the documentation and evaluation of our internal control over financial reporting. In this regard, we have dedicated internal resources, engaged outside consultants and adopted a detailed work plan to assess and document the adequacy of internal control over financial reporting. We will need to continue to improve our 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. This continuous process is both costly and challenging and despite our efforts, there is a risk that we will not be able to conclude within the prescribed timeframe that our internal control over financial reporting is effective as required by Section 404. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

Provisions in our restated certificate of incorporation and amended and restated bylaws and under Delaware law might discourage, delay or prevent a change in control of our company or changes in our management and, therefore, depress the market price of our common stock.

Our restated certificate of incorporation and amended and restated bylaws contain provisions that could depress the market price of our common stock by acting to discourage, delay or prevent a change in control of our company or changes in our management that the stockholders of our company may deem advantageous. Among other things, these provisions:

- establish a classified board of directors so that not all members of our board are elected at one time;
- permit the board of directors to establish the number of directors;
- provide that directors may only be removed “for cause”;
- require super-majority voting to amend some provisions in our restated certificate of incorporation and amended and restated bylaws;
- authorize the issuance of “blank check” preferred stock that our board of directors could use to implement a stockholder rights plan;
- eliminate the ability of our stockholders to call special meetings of stockholders;
- prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders;
- provide that the board of directors is expressly authorized to make, alter or repeal our bylaws; and
- establish advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted upon by stockholders at annual stockholder meetings.

In addition, Section 203 of the Delaware General Corporation Law may discourage, delay or prevent a change in control of our company. Section 203 imposes certain restrictions on merger, business combinations and other transactions between us and holders of 15% or more of our common stock.

Our restated certificate of incorporation designates the Court of Chancery of the State of Delaware as the exclusive forum for certain litigation that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Pursuant to our restated certificate of incorporation, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware), will be the sole and exclusive forum for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (3) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our restated certificate of incorporation or our amended and restated bylaws or (4) any action asserting a claim governed by the internal affairs doctrine. Additionally, if the subject matter of any action within the scope of the preceding sentence is filed in a court other than a court located with the State of Delaware (a Foreign Action) in the name of any stockholder, such stockholder shall be deemed to have consented to (i) the personal jurisdiction of the state and federal courts located within the State of Delaware in connection with any action brought in any such court to enforce the preceding sentence and (ii) having service of process made upon such stockholder in any such action by service upon such stockholder's counsel in the Foreign Action as agent for such stockholder.

The forum selection clause in our restated certificate of incorporation may limit our stockholders' ability to obtain a favorable judicial forum for disputes with us, our directors, officers or other employees. Alternatively, if a court were to find the choice of forum provision contained in our restated certificate of incorporation 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.

Our business could be negatively affected as a result of the actions of activist stockholders.

Proxy contests have been waged against many companies in the biopharmaceutical industry over the last several years, and proxy advisory firms may recommend changes to our business operations, provisions in our restated certificate of incorporation or amended and restated bylaws, or the composition of our board of directors or its committees. If faced with a proxy contest or other type of shareholder activism, or a proxy advisory firm recommendation that is adverse to a management proposal, we may not be able to respond successfully to the contest or dispute, which would be disruptive to our business. Even if we are successful, our business could be adversely affected by such a contest or dispute involving us or our partners because:

- responding to proxy contests or other actions by activist stockholders, or adverse proxy advisory firm recommendations, can be costly and time-consuming, disrupting operations and diverting the attention of management and employees;
- perceived uncertainties as to future direction may result in the loss of potential acquisitions, collaborations or licensing opportunities, and may make it more difficult to attract and retain qualified personnel and business partners; and
- if individuals are elected to our board of directors with a specific agenda, it may adversely affect our ability to effectively and timely implement our strategic plan and create additional value for our stockholders.

These actions could cause our stock price to decrease and experience periods of increased volatility.

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

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not Applicable.

Item 5. Other Information.

On November 1, 2018, we entered into a lease agreement with ARE Maryland No. 24, LLC, a Delaware limited liability company (the Landlord) pursuant to which we will lease approximately 132,000 square feet of office and laboratory facilities (the Premises) in a building (the new Building) to be constructed at 9800 Medical Center Drive in Rockville, Maryland (the 9800 Medical Center Drive Lease).

Construction of the new Building, which will be conducted by the Landlord, and delivery of the Premises is expected to be completed in mid-2020. Rent for floors 1, 3 and 5 of the new Building will commence 12 months after the date that is 10 business days following delivery of the Premises (the Rent Commencement Date) and rent for floor 4 of the new Building will commence on the first anniversary of the Rent Commencement Date. Under the terms of the 9800 Medical Center Drive Lease, we received a $14.6 million tenant improvement allowance from the Landlord to construct additional improvements to the Premises.

The term of the 9800 Medical Center Drive Lease will expire 15 years from the first day of the first full month following the Rent Commencement Date, subject to certain extension and termination options. We will have the option to extend the 9800 Medical Center Drive Lease for two additional five-year terms. We will have the option to terminate the 9800 Medical Center Drive Lease after 11 years following the Rent Commencement Date. If we elect to terminate the 9800 Medical Center Drive Lease, we will be subject to a termination fee equal to unamortized tenant improvement allowance, rent abatement and Landlord commissions as of the termination date, amortized on a straight-line basis bearing interest at 5% per annum, plus four months of base rent and operating expenses. Additionally, after delivery of the Premises under the 9800 Medical Center Drive Lease, we will have the option to terminate our separate lease for office and laboratory facilities at 9712 Medical Center Drive and 9714 Medical Center Drive with six months' notice.

Total future minimum lease payments under the 9800 Medical Center Drive Lease, which are subject to adjustment based on the actual square footage of the new Building, are expected to be $87.6 million. The initial base rent is expected to be $414,021.88 per month ($3.13 per square foot) for the first year and will escalate by 2.5% per year thereafter.

The foregoing descriptions of certain terms of the 9800 Medical Center Drive Lease do not purport to be complete and are qualified in their entirety by reference to the full text of the 9800 Medical Center Drive Lease, which is included as Exhibit 10.1 to this Quarterly Report on Form 10-Q and incorporated by reference herein.

Item 6. Exhibits.

Exhibit Number	Description	Incorporated by Reference			Filed or Furnished Herewith
		Form	Exhibit Number	Filing Date	
3.1	Restated Certificate of Incorporation	8-K	3.1	9/22/15	
3.2	Amended and Restated Bylaws	8-K	3.2	9/22/15	
10.1	Lease dated November 1, 2018 between the Company and ARE-Maryland No. 24, LLC				X
31.1	Certification of the Chief Executive Officer, as required by Section 302 of the Sarbanes-Oxley Act of 2002				X
31.2	Certification of the Chief Financial Officer as required by Section 302 of the Sarbanes-Oxley Act of 2002				X
32.1	Certifications of the Chief Executive Officer and Chief Financial Officer as required by 18 U.S.C. 1350				X
101	The following materials from the Registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2018 formatted in XBRL (eXtensible Business Reporting Language): (i) Consolidated Balance Sheets (ii) Consolidated Statements of Operations and Comprehensive Income (Loss) (iii) Consolidated Statements of Cash Flows (iv) Notes to Consolidated Financial Statements				X

The certification attached as Exhibit 32.1 that accompanies this Quarterly Report on Form 10-Q is not deemed filed with the SEC and is not to be incorporated by reference into any filing of REGENXBIO Inc. under the Securities Act or the Exchange Act, whether made before or after the date of this Quarterly Report on Form 10-Q, irrespective of any general incorporation language contained in such filing.

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.

REGENXBIO Inc.

Dated: November 7, 2018

/s/ Kenneth T. Mills
Kenneth T. Mills
President and Chief Executive Officer
(Principal Executive Officer)

Dated: November 7, 2018

/s/ Vittal Vasista
Vittal Vasista
Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

LEASE AGREEMENT

THIS LEASE AGREEMENT ("**this Lease**") is made as of this __1__ day of November, 2018, between **ARE-MARYLAND NO. 24, LLC**, a Delaware limited liability company ("**Landlord**"), and **REGENXBIO INC.**, a Delaware corporation ("**Tenant**").

BASIC LEASE PROVISIONS

Address: 9800 Medical Center Drive, Building F, Suite 100, Rockville, Maryland 20850.

Premises: That portion of the Project, containing approximately 132,487 rentable square feet, as determined by Landlord, as shown as the hatched area on **Exhibit A**. The Premises consist of the following, all of which are depicted on **Exhibit A**: (i) approximately 13,897 rentable square feet located on the first floor of the Building ("**1st Floor Premises**"), (ii) approximately 39,530 rentable square feet located on the third floor of the Building ("**3rd Floor Premises**"), (iii) approximately 39,530 rentable square feet located on the 4th floor of the Building ("**4th Floor Premises**"), and (iv) approximately 39,530 rentable square feet located on the 5th floor of the Building ("**5th Floor Premises**"). The 1st Floor Premises, the 3rd Floor Premises, and the 5th Floor Premises are collectively referred to as the "**Initial Premises,**" and the Initial Premises and 4th Floor Premises are collectively referred to as the "**Premises**."

Gaudreau, Inc., Landlord's architect ("**Landlord's Architect**"), has measured the area of the Building and the Premises based on preliminary plans of the Building pursuant to the 2010 Standard Method of Measuring Floor Area in Office Buildings (Single Tenant Method A) as adopted by the Building Owners and Managers Association (ANSI/BOMA Z65.1-2010), modified as follows: (a) total rentable area is based on a single tenant building where the total interior gross area for each floor is the rentable area, and (b) adjustments were made to allocate the Building Service Area (Building Common) to each floor on a prorata basis ("**BOMA Standards**"). On Substantial Completion (as defined below) of the Building, Landlord will cause Landlord's Architect to confirm the measurement of the rentable areas of the Building and the Premises ("**Landlord's Measurement Confirmation**") based on the BOMA Standards (or identify any variation in such measurement) and shall deliver Landlord's Measurement Confirmation to Tenant. Landlord's Measurement Confirmation shall be conclusive (and Landlord shall at its expense cause Landlord's Architect to certify such measurement directly to Tenant), and Landlord and Tenant shall promptly enter into a mutually acceptable amendment to this Lease making any conforming changes to this Lease based on such measurements; provided, however, that if Landlord's Measurement Confirmation reflects that the rentable areas of the Premises or the Building (or both) are more than 2% greater than the rentable areas of the Premises or Building (or both) as set forth in the Basic Lease Provisions, Tenant shall have the right within 30 days after receipt of Landlord's Measurement Confirmation to engage an architect duly licensed by the State of Maryland to confirm ("**Tenant's Measurement Confirmation**") the rentable areas of the Building and the Premises based on the BOMA Standards. If Tenant's Measurement Confirmation does not confirm Landlord's Measurement Confirmation and a variance of more than 2% continues to exist, Landlord and Tenant shall promptly meet to resolve such variance in good faith. Landlord covenants and agrees, irrespective of any change in the BOMA Standards after the Lease Commencement Date, that Landlord shall not re-measure the rentable area of the Building and/or the Premises during the Term, except to reflect actual changes in the physical size of the Premises or the Building, and then only in accordance with the BOMA Standards.

Project: The specific buildings in the Project known as Building A, Building B, Building C, Building D, Building E ("**Parking Garage**"), and Building F and located at 9800 Medical Center Drive, Rockville, Maryland 20850, in which the Premises are located, together with all improvements thereon and appurtenances thereto as shown on **Exhibit B**.

Building: The to be constructed building in the Project known as Building F located at 9800 Medical Center Drive, Rockville, Maryland 20850, in which the Premises are located, and shown on **Exhibit B**.

Base Rent: Initially, $414,021.88 per month (i.e., $37.50 per rentable square foot per annum) for the Premises, subject to adjustment upon confirmation of the rentable area of the Premises as provided above.

Rentable Area of Premises: 132,487 rentable square feet, subject to adjustment upon confirmation of the rentable area of the Premises as provided above.

Rentable Area of Project: 457,076 rentable square feet, subject to adjustment upon confirmation of the rentable area of the Building as provided above. As of the Commencement Date, set forth below is the rentable area of the buildings located in the Project (excluding Building F, the Parking Garage):

Building A:	43,380 rentable square feet
Building B:	58,326 rentable square feet
Building C:	124,351 rentable square feet
Building D:	56,379 rentable square feet
Building F:	174,640 rentable square feet
Total:	457,076 rentable square feet

Landlord covenants and agrees that Landlord shall not re-measure the rentable area of the Project during the Term except to reflect actual changes in the physical size of the Project, and then only in accordance with the measurement standards that have been used historically to measure such rentable area of the Project. Tenant's Project Share and Building's Share of Project shall be promptly re-adjusted based on any changes in the Rentable Area of Project after the Commencement Date.

Tenant's Share: 75.86%, subject to adjustment upon confirmation of the rentable areas of the Building and the Premises as provided above.

Tenant's Project Share: 28.99%, subject to adjustment upon confirmation of the rentable area of the Premises as provided above.

Rentable Area of Building: 174,640 rentable square feet, subject to adjustment upon confirmation of the rentable area of the Building as provided above.

Building's Share of Project: 38.21%, subject to adjustment upon confirmation of the rentable areas of the Building as provided above.

Security Deposit: $828,043.76 (i.e., 2 months of Base Rent for the Premises at the initial rate set forth above), subject to adjustment upon confirmation of the rentable area of the Premises as provided above.

Target Commencement Date: July 1, 2020.

Rent Adjustment Percentage: 2.5%

Base Term: Beginning on the Commencement Date and ending 180 months from the first day of the first full month following the Rent Commencement Date. For clarity, if the Rent Commencement Date occurs on the first day of a month, the Base Term will be measured from that date. If the Rent Commencement Date occurs on a day other than the first day of a month, the Base Term will be measured from the first day of the following month.

Permitted Use: general office, research and development biotechnology laboratory, training, manufacturing, and other related uses consistent with biotechnology use and otherwise in compliance with the provisions of Section 7 hereof.

Address for Rent Payment:
For check payments remit to:
P.O. Box 79840
Baltimore, MD 21279-0840

For wire/ACH payments:
Bank name:SunTrust Bank
Bank address:25 Park Place
Atlanta, GA 30303
Phone number:1.800.221.9792 ACH
1.800.947.3786 Wire
Account name:Alexandria Real Estate Equities, Inc.
Account number: 1000049592453
ABA number:061000104 (or
SWIFT # SNTRUS3AXXX)
Other instructions:Include Tenant ID (found on statement)

Landlord's Notice Address:
385 E. Colorado Blvd., Suite 299
Pasadena, California 91101
Attention: Corporate Secretary

Tenant's Notice Address (before Lease Commencement Date):

9600 Blackwell Road
Suite 210
Rockville, MD 20850
Attention: General Counsel

Tenant's Notice Address (on and after Lease Commencement Date):
9800 Medical Center Drive
Building F
Suite 100
Rockville, MD 20850
Attention: General Counsel

The following Exhibits and Addenda are attached hereto and incorporated herein by this reference:

[X] **EXHIBIT A** - PREMISES DESCRIPTION
[X] **EXHIBIT B** - DESCRIPTION OF PROJECT
[X] **EXHIBIT C-2** – TENANT WORK LETTER
[X] **EXHIBIT E** - RULES AND REGULATIONS
[X] **EXHIBIT G** – LOCATION OF IDENTIFICATION SIGNAGE
[X] **EXHIBIT A-1** – DRAWING SHOWING OUTDOOR PLAZA
[X] **EXHIBIT C-1** – LANDLORD WORK LETTER
[X] **EXHIBIT D** –COMMENCEMENT DATE
[X] **EXHIBIT F** TENANT'S PERSONAL PROPERTY
[X] **EXHIBIT H** –LOADING DOCKS AND DEDICATED GENERATOR AREA
[X] **EXHIBIT I** – TENANTS WITH SUPERIOR EXPANSION RIGHTS

1. **Lease of Premises**. Upon and subject to all of the terms and conditions hereof, Landlord hereby leases the Premises to Tenant and Tenant hereby leases the Premises from Landlord. The portions

of the Project that are for the non-exclusive use of tenants of the Project are collectively referred to herein as the "**Common Areas**." The Common Areas include the outdoor space adjacent to the Building as shown as the "Outdoor Plaza" on **Exhibit A-1** attached hereto. Tenant, its employees, licensees, invitees, successors, subtenants, and assignees shall have, as appurtenant to the Premises, the right to use the Common Areas at no additional cost, in common with others. Subject to Section 7(a), Landlord reserves the right to modify the Common Areas, provided that such modifications do not materially adversely affect (i) Tenant's access to and/or use of the Premises for the Permitted Use or (ii) Tenant's parking rights under Section 10. Subject to a Taking (as defined in Section 19) and Force Majeure (as defined in Section 34), Tenant shall have access to the Premises (and the right to use the Common Areas subject to a Taking, Force Majeure, and the provisions of Section 13) 24 hours per day, 7 days per week, 365/366 days per year during the Term.

2. **Delivery; Acceptance of Premises; Commencement Date**. Landlord shall use reasonable efforts to deliver the Premises to Tenant on or before the Target Commencement Date, with the Base Building Work Substantially Completed ("**Delivery**" or "**Deliver**"). If Landlord fails to timely Deliver the Premises, Landlord shall not be liable to Tenant for any loss or damage resulting therefrom, and this Lease shall not be void or voidable except as provided herein. If Landlord does not Deliver the Premises for any reason within 270 days of the Target Commencement Date as such period may be extended by Force Majeure Delays (not to exceed 1 year in the aggregate) and Tenant Delays on a day-for-day basis, this Lease may be terminated by Tenant by written notice to Landlord (except that any Tenant Delay shall extend the Target Commencement Date on a day-for-day basis), and if so terminated: (a) the first month's Base Rent for the Premises paid by Tenant pursuant to Section 3(a) below shall be refunded to Tenant, (b), the Security Deposit, or any balance thereof, i.e., after deducting therefrom all amounts to which Landlord is entitled under the provisions of this Lease, shall be returned to Tenant (and if the Security Deposit is the form of a Letter of Credit [as defined in Section 6], with such documentation or instructions as reasonably required by the issuer thereof to cancel the Letter of Credit), and (c) neither Landlord nor Tenant shall have any further rights, duties, or obligations under this Lease, except with respect to provisions that expressly survive termination of this Lease. If any Tenant Delay actually delays Landlord's Delivery of the Base Building Work beyond such 270 day period, then Landlord shall cause the Base Building Architect to certify the date on which the Base Building Work would have been completed but for such Tenant Delay and shall provide such certification to Tenant by written notice, and such certified date shall be the date of Delivery, subject to Tenant's right to dispute reasonably in good faith any Tenant Delay claimed by Landlord, by written notice to Landlord given within 30 days after Tenant's receipt of the Base Building Architect's certification thereof. As used herein, the terms "**Base Building Work**," "**Base Building Architect**," "**Tenant Improvements Work**," "**Force Majeure Delays**," "**Tenant Delays**," and "**Substantially Completed**" shall have the meanings set forth for such terms in the Landlord Work Letter (**Exhibit C-1**) and the Tenant Work Letter (**Exhibit C-2**), as applicable. If Tenant does not elect to terminate this Lease within 30 days of the lapse of such 270 day period as it may have been extended as provided above, such right to terminate this Lease shall be waived and this Lease shall remain in full force and effect.

In addition to Tenant's termination right set forth in the preceding paragraph, Tenant shall have the right to terminate this Lease as follows:

(1) If Landlord fails to obtain a final and non-appealable building permit for the Base Building Work for any reason within 270 days after April 30, 2019 (such 270 day period ends on Saturday, January 25, 2020) as such period may be extended by Force Majeure Delays (not to exceed 1 year in the aggregate) and Tenant Delays on a day-for-day basis, Tenant shall thereafter be entitled to send a written notice to Landlord stating that Tenant is terminating this Lease because of Landlord's failure to obtain such final and non-appealable building permit (except that any Tenant Delay shall extend such 270 day period on a day-for-day basis). Such termination, however, shall be void if Landlord obtains such final and non-appealable building permit within 90 days after receipt of Tenant's termination notice. Tenant shall send such termination notice to Landlord, if at all, within 30 days after the expiration of such 270 day period as it may have been extended as provided above; otherwise, such right to terminate this Lease shall be waived

and this Lease shall remain in full force and effect. For purposes of this paragraph, a "final and non-appealable building permit" means that all applicable appeal periods have expired with no appeal having been taken (or, if appealed, such appeal is resolved to the satisfaction of Landlord).

(2) If Landlord fails to cause the Building to be in a watertight condition for any reason within 270 days after March 31, 2020 (such 270 day period ends on Saturday, December 26, 2020) as such period may be extended by Force Majeure Delays (not to exceed 1 year in the aggregate) and Tenant Delays on a day-for-day basis, Tenant shall thereafter be entitled to send a written notice to Landlord stating that Tenant is terminating this Lease because of Landlord's failure to cause the Building to be in such watertight condition (except that any Tenant Delay shall extend such 270 day period on a day-for-day basis). Such termination, however, shall be void if Landlord causes the Building to be in such watertight condition within 60 days after receipt of Tenant's termination notice; otherwise, such right to terminate this Lease shall be waived and this Lease shall remain in full force and effect. Tenant shall send such termination notice to Landlord, if at all, within 30 days after the expiration of such 270 day period as it may have been extended as provided above, such right to terminate this Lease shall be waived and this Lease shall remain in full force and effect.

The references to "Force Majeure Delays" in paragraphs (1) and (2) above shall be included within the overall 1 year maximum, aggregate time period for all forms of Force Majeure Delays set forth in this Section 2. In case of a termination of this Lease as set forth in paragraphs (1) or (2) above, (A) the first month's Base Rent for the Premises paid by Tenant pursuant to Section 3(a) below shall be refunded to Tenant, (B), the Security Deposit, or any balance thereof, i.e., after deducting therefrom all amounts to which Landlord is entitled under the provisions of this Lease, shall be returned to Tenant (and if the Security Deposit is the form of a Letter of Credit [as defined in Section 6], with such documentation or instructions as reasonably required by the issuer thereof to cancel the Letter of Credit), and (C) neither Landlord nor Tenant shall have any further rights, duties, or obligations under this Lease, except with respect to provisions that expressly survive termination of this Lease.

(a) **Per Diem Credit**. If Landlord does not Deliver the Premises by no later than 270 days after the Target Commencement Date for reasons other than Force Majeure Delays or Tenant Delays, Tenant shall receive a Per Diem Credit (as defined below) against the Base Rent for the Initial Premises for each day after the date that is 270 days after the Target Commencement Date until the Lease Commencement Date. In all cases, the Target Commencement Date shall be subject to extension for Force Majeure Delays (not to exceed 1 year in the aggregate) or Tenant Delays on a day-for-day basis. For purposes of this Lease, "**Per Diem Credit**" means a per day credit in an amount equal to the product of the area of the Initial Premises (i.e., 92,957 rentable square feet) multiplied by $37.50, divided by 365.

(b) **Definitions of Various Dates**. For purposes of this Lease, (i) the "**Commencement Date**" shall mean the date of this Lease, (ii) the "**Lease Commencement Date**" means 10 business days after Landlord Delivers the Premises for the performance of the Tenant Improvements, (iii) the "**Rent Commencement Date**" for the Initial Premises means the first anniversary of the Lease Commencement Date, and (iv) the "**4th Floor Rent Commencement Date**" for the 4th Floor Premises means the first anniversary of the Rent Commencement Date. Landlord shall provide Tenant with notice of the anticipated the Lease Commencement Date not more than 60 days and not less than 30 days before such date. Upon written request of Landlord, Tenant shall execute and deliver one or more written acknowledgments of the Commencement Date, the Lease Commencement Date, the Rent Commencement Date, the 4th Floor Rent Commencement Date, and the expiration date of the Base Term when such are established in the form of the "Acknowledgement of Commencement Date" attached to this Lease as **Exhibit D**; provided, however, that Landlord's failure to request, provide, or execute, or Tenant's failure to execute and deliver, such acknowledgment(s) shall not affect Landlord's or Tenant's rights and obligations hereunder. The "**Term**" of this Lease shall be the Base Term, as defined above in the Basic Lease Provisions and any Extension Terms that Tenant may elect pursuant to Section 42 (Right to Extend Term).

(c) **Condition of Premises**. Except as set forth in the Landlord Work Letter and in this Section 2, Section 7 (Use), and Section 13 (Landlord's Repairs): (i) Tenant shall accept the Premises in their condition as of the Lease Commencement Date, subject to the Premises being in material compliance with all applicable material Legal Requirements (as defined in Section 7); (ii) Landlord shall have no obligation for any defects in the Premises; and (iii) Tenant's taking possession of the Premises shall be conclusive evidence that Tenant accepts the Premises and that the Premises were in good condition at the time possession was taken. Any occupancy of the Premises by Tenant before the Lease Commencement Date shall be subject to all of the terms and conditions of this Lease (other than the obligation to pay Base Rent or Tenant's Share of Operating Expenses).

(d) **Complete Agreement**. Tenant agrees and acknowledges that, except as otherwise expressly provided in this Lease, neither Landlord nor any agent of Landlord has made any representation or warranty with respect to the condition of all or any portion of the Premises or the Project, and/or the suitability of the Premises or the Project for the conduct of Tenant's business, and Tenant waives any implied warranty that the Premises or the Project are suitable for the Permitted Use. This Lease constitutes the complete agreement of Landlord and Tenant with respect to the subject matter hereof and supersedes any and all prior representations, inducements, promises, agreements, understandings and negotiations that are not contained herein. Landlord in executing this Lease does so in reliance upon Tenant's representations, warranties, acknowledgments and agreements contained herein.

(e) **Latent Defects**. Notwithstanding the foregoing provisions of this Section 2, Tenant shall have a period of one year after Landlord's Delivery of the Premises to Tenant to reasonably identify in writing any Latent Defects (as defined below) in the Premises and the mechanical, electrical, heating, air conditioning, and ventilation ("**HVAC**"), and plumbing systems and the structural components serving the Premises. For purposes of this Lease, "**Latent Defects**" means those material defects in the Premises and such systems and/or components that could not have been readily identified or discovered through a reasonable inspection thereof conducted by a qualified architect, engineer, or technician. Landlord will promptly repair such identified Latent Defects (subject to Landlord's reasonable confirmation that such Latent Defects are, in fact, Latent Defects).

(f) **On Site Food Service**. By no later than the Rent Commencement Date for the Initial Premises, Landlord shall use commercially reasonable efforts to enter into a lease or other arrangement with a third party operator for space on the first floor of the Building not to exceed approximately 6,299 rentable square feet in area as shown on **Exhibit A** attached hereto ("**On Site Food Service Area**") or the purpose of establishing and operating a restaurant ("**On Site Food Service**"). Landlord makes no guaranty, promise, or assurance that it will, in fact, enter into such an agreement for On Site Food Service, and the terms of such agreement (if any) shall be satisfactory to Landlord in the exercise of its sole and absolute discretion. Landlord's obligation to use commercially reasonable efforts shall be satisfied in full if Landlord performs the following: (i) Landlord directs its broker in writing to identify potential providers of the On Site Food Service, (ii) Landlord solicits written proposals from at least 3 potential providers of the On Site Food Service, and (iii) Landlord interviews at least 2 potential providers of the On Site Food Service.

(1) If Landlord determines not to open the On Site Food Service or, if Landlord opens the On Site Food Service but later ceases to operate it, then the Expansion Right and Tenant's rights for the Hold Space as set forth in Section 41 shall apply to the On Site Food Service Area.

(2) If Landlord determines not to open the On Site Food Service or, if Landlord opens the On Site Food Service but later ceases to operate it, and Tenant subsequently leases the On Site Food Service Area pursuant to Tenant's exercise of the Expansion Right or Tenant's exercise of its rights for the Hold Space as set forth in Section 41, then Tenant shall have the right to operate an On Site Food Service in the On Site Food Service Area as long as it is operated on a private (non-public) basis and is for the sole and exclusive use and enjoyment of Tenant and its employees.

(g) **Occupancy of 4th Floor Premises**. Notwithstanding anything to the contrary contained herein, Tenant shall have the right to occupy and use the 4th Floor Premises at any time and from time to time from and after the Lease Commencement Date, for the Permitted Use, without affecting the 4th Floor Rent Commencement Date or triggering the payment of Base Rent with respect to 4th Floor Premises before such date.

3. **Rent**.

(a) **Base Rent**. The first month's Base Rent for the Premises and the Security Deposit shall be due and payable on delivery of a Tenant-executed copy of this Lease to Landlord; such first month's Base Rent shall be applied to the first payment(s) of Base Rent during the Term after the Initial Premises Base Rent Abatement. Beginning on the Rent Commencement Date and the 4th Floor Rent Commencement Date, respectively, and on or before the first day of each calendar month thereafter during the Term hereof (but subject to the Base Rent Abatement described in Section 4(a)) Tenant shall pay to Landlord in advance, without demand, abatement, deduction or set-off, except as otherwise provided herein, monthly installments of Base Rent for the Initial Premises and the 4th Floor Premises, respectively, in lawful money of the United States of America, at the office of Landlord for payment of Rent set forth above, or to such other entity or person or at such other place as Landlord may from time to time notify Tenant in writing not less than 30 days in advance. Payments of Base Rent for any fractional calendar month shall be prorated on a per diem basis. The obligation of Tenant to pay Base Rent and other sums to Landlord and the obligations of Landlord under this Lease are independent obligations. Tenant shall have no right at any time to abate, reduce, or set-off any Rent (as defined in Section 5) due hereunder except for any abatement or set-off as may be expressly provided in this Lease.

(b) **Additional Rent**. In addition to Base Rent, Tenant agrees to pay to Landlord as additional rent ("**Additional Rent**"): commencing on the Lease Commencement Date (and notwithstanding the Initial Premises Base Rent Abatement), (i) Tenant's Share of "Operating Expenses" (as defined in Section 5), and (ii) any and all other amounts Tenant assumes or agrees to pay under the provisions of this Lease, including, without limitation, any and all other sums that may become due by reason of any default of Tenant or failure to comply with the agreements, terms, covenants and conditions of this Lease to be performed by Tenant, after any applicable notice and cure period.

4. **Base Rent Adjustments**. Base Rent shall be increased on each anniversary of the first day of the first full calendar month during the Base Term (each an "**Adjustment Date**") by multiplying the Base Rent payable immediately before such Adjustment Date by the Rent Adjustment Percentage and adding the resulting amount to the Base Rent payable immediately before such Adjustment Date. Base Rent, as so adjusted, shall thereafter be due as provided herein. Base Rent adjustments for any fractional calendar month shall be prorated.

(a) **Base Rent Abatement**. Notwithstanding anything to the contrary contained in this Lease, but provided Tenant is not in Default hereunder, Landlord hereby grants Tenant an abatement of the Base Rent (i) payable for the Initial Premises during the period beginning on the Lease Commencement Date and ending the day before the Rent Commencement Date (i.e., 12 months after the Lease Commencement Date) ("**Initial Premises Base Rent Abatement**"), and (ii) payable for the 4th Floor Premises during the period beginning on the Lease Commencement Date and ending the day before the 4th Floor Rent Commencement Date (i.e., 12 months after the Rent Commencement Date; 24 months after the Lease Commencement Date) ("**4th Floor Base Rent Abatement**"; together with the Initial Premises Base Rent Abatement, the "**Base Rent Abatement**"). For the avoidance of doubt, if the Lease Commencement Date occurs on the first day of a calendar month, the Base Rent Abatement will be measured from that date. If the Lease Commencement Date occurs on a day other than the first day of a calendar month, the Base Rent Abatement will be measured from the first day of the following calendar month. Except as provided in the preceding sentences, Tenant shall pay the full amount of Base Rent due in accordance with the provisions of this Lease. The administration rent set forth in Section 5 below shall not be abated and shall

be based on the amount of Base Rent that would have been payable but for the Base Rent Abatement. Notwithstanding anything to the contrary in this Section 4(a), the adjustment in the Base Rent as set forth in this Section 4 shall be based on the full and unabated amount of Base Rent payable for the first 12 month period from and after the Lease Commencement Date.

(b) **Base Rent Set-off for Failure to Fund TI Allowance**. If Landlord fails to disburse any portion of the TI Allowance (as defined in the Tenant Work Letter) to Tenant for TI Costs incurred in connection with the design and construction of the Tenant Improvements in the time and manner required by the Tenant Work Letter, Tenant may thereafter send a second written request (after the request for disbursement) to Landlord ("**Set-off Demand Notice**"). The Set-off Demand Notice shall include a copy of the request for disbursement. If Landlord fails to pay the portion of the TI Allowance owed to Tenant within 5 business days after the Set-off Demand Notice is received by Landlord and as long as Tenant is not in default of its obligations under this Lease of which default Tenant has been given notice and Landlord's payment obligation has not been suspended under Section 5(e) of the Tenant Work Letter, then Tenant shall have the right to set-off such unpaid TI Allowance amounts owed by Landlord against the next accruing monthly installments of Base Rent under this Lease. Tenant shall not claim any rights of set-off for unfunded portions of the TI Allowance to the extent that Tenant has not first made a written request for disbursement for such amount, and the amount of set-off shall not exceed any shortfall specifically set forth in the previously claimed TI Allowance payment. If Landlord in good faith disputes ("**Dispute**") that Tenant is entitled to the disbursement of any portion of the TI Allowance and so notifies Tenant in writing, the parties shall promptly meet to resolve the Dispute. If Landlord and Tenant are unable to resolve the Dispute within 15 days after the date of Landlord's notification of Tenant, the parties shall submit the Dispute to final and binding arbitration as set forth in this Section. During the pendency of the Dispute, Tenant shall make payments of Base Rent into escrow with an escrow agent appointed by Landlord and reasonably acceptable to Tenant, which escrow shall be governed by an escrow agreement in form and substance reasonably acceptable to Landlord, Tenant, and such escrow agent. The arbitration shall be in accordance with the then prevailing Expedited Procedures of the Arbitration Rules for the Real Estate Industry of the American Arbitration Association ("**AAA**") or the successor of such Rules. Judgment on the award rendered by the arbitrators may be enforced and entered in any court having jurisdiction.

5. **Operating Expense Payments**. Landlord shall deliver to Tenant a written estimate of Operating Expenses for each calendar year during the Term ("**Annual Estimate**"), which may be revised by Landlord from time to time (but no more than twice) during such calendar year. Beginning on the Lease Commencement Date (and notwithstanding the Base Rent Abatement), Tenant shall pay Landlord on or before the first day of each calendar month during the Term hereof an amount equal to 1/12th of Tenant's Share of the Annual Estimate for the entire Premises. Payments for any fractional calendar month shall be prorated. Operating Expenses for the calendar years in which Tenant's obligation to share therein begins and ends shall be prorated.

The term "**Operating Expenses**" means, except as otherwise provided herein, all costs and expenses of any kind or description whatsoever incurred or accrued each calendar year by Landlord with respect to the Building (including the Building's Share of all costs and expenses of any kind or description incurred or accrued by Landlord with respect to the Project which are not specific to the Building or any other building located in the Project) determined in accordance with generally acceptable accounting principles consistently applied from year to year as such principles are generally applied in the real estate industry ("**GAAP**") (including, without duplication, Taxes (as defined in Section 9), capital repairs and improvements made to accomplish a reduction in the Operating Expenses, to comply with any changes in applicable Legal Requirements enacted after the Lease Commencement Date or to ensure continued compliance with Legal Requirements in effect on the Lease Commencement Date, or to replace worn out or obsolete building systems or equipment (which capital repairs and improvements shall be amortized over their useful life on a straight-line basis without interest), the costs of Landlord's third party property manager or, if there is no third party property manager, administration rent in the amount of 3% of Base Rent, the cost to repair or replace exterior glass, caulking, or brick, the cost of any tuck pointing, and Landlord's costs

and expenses associated with the On Site Food Service (net of any costs and expenses paid to Landlord by the operator of the On Site Food Service, if any, and inclusive of any costs, fees, and/or subsidies paid by Landlord to the operator of the On Site Food Service, if any), excluding only:

(a) costs of repair or replacement of the roof, foundation, slab, and structural walls of the Building, the original construction costs of the Project, the costs of any subsequent renovation of the Project (except for capital repairs and improvements and normal repair and maintenance, the costs of which are includable in Operating Expenses as provided above), and costs of correcting defects in such original construction or renovation;

(b) capital expenditures for expansion or renovation of the Project (except for capital repairs and improvements, the cost of which are includable in Operating Expenses as provided above);

(c) [reserved];

(d) interest, principal payments of Mortgage (as defined in Section 27) debts of Landlord or the owner of any interest in the Project, financing costs and amortization of funds borrowed by Landlord or the owner of any interest in the Project, whether secured or unsecured and all payments of base rent (but not taxes or operating expenses) under any ground lease or other underlying lease of all or any portion of the Project;

(e) amortization and depreciation of the Project (except for amortization of capital repairs and improvements, which are includable in Operating Expenses as provided above);

(f) advertising, legal and space planning expenses and leasing commissions and other costs and expenses incurred in procuring and leasing space to current or prospective tenants for the Project, including, the cost of or imputed rent for any leasing office maintained in the Project (to the extent such office exceeds 5,000 rentable square feet), free rent, construction allowances, moving costs and other leasing concessions granted to such tenants;

(g) legal and other expenses incurred in the negotiation or enforcement of leases;

(h) costs of completing, fixturing, improving, renovating, painting, redecorating or other work, which Landlord pays for or performs for any leasable space in the Project, and costs of correcting defects in such work;

(i) costs of utilities (including HVAC service) outside normal business hours provided to tenants of the Project and for which such tenants are charged;

(j) costs to be reimbursed by other tenants of the Project or Taxes to be paid directly by Tenant or other tenants of the Project, whether or not actually paid;

(k) salaries, wages, benefits and other compensation paid to officers and employees of Landlord or the owner of any interest in the Project who are not assigned in whole or in part to the operation, management, maintenance, or repair of the Project, and in the case of such parties who are assigned only in part to the operation, management, maintenance, or repair of the Project, the portion of such salaries, wages, benefits, and other compensation not allocable to the Project;

(l) general organizational, administrative and overhead costs relating to maintaining Landlord's or the owner of any interest in the Project's existence, either as a corporation, partnership, or other entity, including general corporate, legal and accounting expenses;

(m) costs (including attorneys' fees and costs of settlement, judgments and payments in lieu thereof) incurred in connection with disputes with tenants, other occupants, or prospective tenants, and costs and expenses, including legal fees, incurred in connection with negotiations or disputes with employees, consultants, management agents, leasing agents, purchasers, or mortgagees of the Building;

(n) costs incurred by Landlord or the owner of any interest in the Project due to (i) the violation by Landlord, any owner of any interest in the Project, or their respective employees, agents or contractors or any tenant, licensee or occupant of the terms and conditions of any lease or license of, or occupancy agreement with respect to, space in the Project or any Legal Requirement or (ii) the gross negligence or willful misconduct of Landlord or its employees;

(o) penalties, fines or interest incurred as a result of Landlord's or the owner of any interest in the Project's inability or failure to make payment of Taxes and/or to file any tax or informational returns when due, or from Landlord's failure to make any payment of Taxes required to be made by Landlord or hereunder, or by or the owner of any interest in the Project, before delinquency;

(p) overhead and profit increment paid to Landlord or the owner of any interest in the Project, or to subsidiaries or affiliates of Landlord or the owner of any interest in the Project, for goods and/or services in or to the Project to the extent the same exceeds the costs of such goods and/or services rendered by unaffiliated third parties on a competitive basis;

(q) costs of Landlord's or the owner of any interest in the Project's charitable or political contributions and/or trade association dues, or to acquire, maintain, and/or insure any fine art located at the Project;

(r) costs in connection with services (including electricity), items or other benefits of a type that are not standard for the Project and that are not available to Tenant without specific charges therefor, but which are provided to another tenant or occupant of the Project, whether or not such other tenant or occupant is specifically charged therefor by Landlord or the owner of any interest in the Project;

(s) costs incurred in the sale or refinancing of the Project or Landlord's or the owner of any interest in the Project's interest(s) therein;

(t) net income taxes of Landlord or the owner of any interest in the Project (except to the extent such net income taxes are in substitution for any Taxes payable hereunder), franchise, capital stock, gift, estate or inheritance taxes or any federal, state or local documentary taxes imposed against the Project or any portion thereof or interest therein;

(u) costs to repair or correct Latent Defects identified to Landlord within 1 year after Landlord's Delivery of the Premises to Tenant;

(v) costs incurred (less costs of recovery) for any items to the extent such amounts are actually recovered by Landlord under a manufacturer's, materialman's, vendor's, or contractor's warranty;

(w) costs to repair, restore, or replace any item in the Building, to the extent Landlord is actually reimbursed therefor by proceeds from insurance or condemnation;

(x) costs incurred in connection with environmental clean-up, response action, or remediation on, in or under or about the Project, to the extent such costs relate to matters (i) existing before the Commencement Date, but excepting costs of normal and customary testing and monitoring, or (ii) caused by Landlord after the Commencement Date; provided, however, that Tenant shall have the obligation to prove by a preponderance of the evidence that such environmental clean-up, response action, or

remediation relate to matters existing before the Commencement Date or were caused by Landlord, ITS agents, employees, or contractors after the Commencement Date. Upon Tenant satisfying such obligation, Landlord shall, at no cost to Tenant, perform or take (as the case may be) such environmental clean-up, response action, or remediation to the extent required by applicable Governmental Authorities;

(y) salaries, wages, or other compensation paid to employees of any property management organization being paid a fee by Landlord or the owner of any interest in the Project for its services where such services are covered by a management fee;

(z) any items excluded from Taxes;

(aa) all costs to comply with Landlord's warranty obligations under this Lease;

(bb) reserves for future Operating Expenses; and

(cc) any expenses otherwise includable within Operating Expenses to the extent actually reimbursed by persons other than tenants of the Project under leases for space in the Project.

Notwithstanding any contrary provision contained in this Section 5, Controllable Operating Expenses (as defined below) shall be capped so that no increase thereof in any calendar year exceeds 5% over the prior year's Controllable Operating Expenses on a non-cumulative basis. As a result, the actual annual increase of Controllable Operating Expenses in any given calendar year from and after the calendar year in which the Lease Commencement Date occurs may be less than or equal to 5% (but shall not exceed 5% in any such year). For purposes of this Lease, "**Controllable Operating Expenses**" means all Operating Expenses except real estate taxes, utilities, snow and ice removal, and insurance premiums (such exceptions collectively referred to herein as the "**Non-Controllable Operating Expenses**").

Within 90 days after the end of each calendar year (or such longer period as may be reasonably required), Landlord shall furnish to Tenant a statement (an "**Annual Statement**") showing in reasonable detail: (a) the total and Tenant's Share of actual Operating Expenses for the previous calendar year (including a breakdown of Controllable Operating Expenses for such calendar year), and (b) the total of Tenant's payments in respect of Tenant's Share of Operating Expenses for such year. If Tenant's Share of actual Operating Expenses for such year exceeds Tenant's payments in respect of Tenant's Share of Operating Expenses for such year, the excess shall be due and payable by Tenant as Rent within 30 days after delivery of such Annual Statement to Tenant. If Tenant's payments of Operating Expenses for such year exceed Tenant's Share of actual Operating Expenses for such year Landlord shall pay the excess to Tenant within 30 days after delivery of such Annual Statement, except that after the expiration, or earlier termination of the Term or if Tenant is delinquent in its obligation to pay Rent, Landlord shall pay the excess to Tenant after deducting all other amounts due Landlord.

The Annual Statement shall be final and binding upon Tenant unless Tenant, within 120 days after Tenant's receipt thereof, shall question or contest same by giving written notice to Landlord. If, during such 120 day period, Tenant in good faith questions or contests the accuracy of Landlord's statement of Tenant's Share of Operating Expenses, Landlord will provide Tenant and/or its designated lease audit firm (working pursuant to a fee arrangement other than a contingent fee) with access during normal business hours at the management office for the Project (located in the Washington, D.C. metropolitan area) with access to Landlord's books and records relating to the operation of the Project and such other records and information as reasonably required to enable Tenant and/or its designated lease audit firm to determine the amount of Operating Expenses for the calendar year in question and the accuracy of the Annual Statement thereof ("**Expense Information**"). If after Tenant's and/or its designated lease audit firm's review of such Expense Information ("**Tenant's Review**"), Landlord and Tenant cannot agree upon the amount of Tenant's Share of Operating Expenses for the calendar year in question, then either Landlord or Tenant shall have the right

to have an independent public accounting firm selected by such party from among the 5 largest in the United States and reasonably approved by the other party, working pursuant to a fee arrangement other than a contingent fee (at Landlord's or Tenant's cost and expense as provided below), audit and/or review the Expense Information for the year in question ("**Independent Review**"). The results of any such Independent Review shall be binding on Landlord and Tenant. If the Independent Review (or Tenant's Review as agreed to by Landlord) shows that the payments actually made by Tenant with respect to Tenant's Share of Operating Expenses for the calendar year in question exceeded Tenant's Share of Operating Expenses for such calendar year, Landlord shall at Landlord's option either (i) if such excess can be fully recovered within 6 months thereby, credit the excess amount to the next succeeding installments of estimated Tenant's Share of Operating Expenses (or the date Landlord agreed to Tenant's Review, if applicable) or (ii) pay the excess to Tenant within 30 days after delivery of the results of the Independent Review, except that after the expiration or earlier termination of this Lease or if Tenant is delinquent in its obligation to pay Rent, Landlord shall pay the excess to Tenant after deducting all other amounts due Landlord. If the Independent Review shows that Tenant's payments with respect to Tenant's Share of Operating Expenses for such calendar year were less than Tenant's Share of Operating Expenses for the calendar year, Tenant shall pay the deficiency to Landlord within 30 days after delivery of the results of the Independent Review to Landlord and Tenant (or the date Landlord agreed to Tenant's Review, if applicable). If the Independent Review (or Tenant's Review as agreed to by Landlord) shows that Tenant has overpaid with respect to Tenant's Share of Operating Expenses by 5% or more, then Landlord shall (i) reimburse Tenant for all costs incurred by Tenant for Tenant's Review and (ii) pay all costs of the Independent Review. If the Independent Review (or Tenant's Review as agreed to by Landlord) shows that Tenant has overpaid with respect to Tenant's Share of Operating Expenses by less than 5%, then Tenant shall pay all costs of Tenant's Review and the Independent Review.

Notwithstanding anything set forth herein to the contrary, if the Building is not at least 95% occupied on average during any calendar year falling wholly or partially during the Term, Tenant's Share of Operating Expenses for such year shall be computed as though the Building had been 95% occupied on average during such calendar year, provided that in no event shall Landlord collect from Building tenants more than 100% of Operating Expenses actually incurred in any calendar year.

"**Tenant's Share**" shall be the percentage set forth in the Basic Lease Provisions as Tenant's Share with respect to Building Operating Expenses, or Tenant's Project Share as to Project Operating expenses, as applicable, as reasonably adjusted by Landlord for changes in the physical size of the Premises or the Project occurring thereafter. Landlord may directly invoice Tenant (and Tenant shall pay as Additional Rent) for any item of expense or cost reimbursable by Tenant that Landlord reasonably determines relates to a repair, replacement, or service that benefits only the Premises or only a portion of the Project that includes the Premises or that varies with occupancy or use. For the avoidance of doubt, a repair, replacement, or service shall be deemed to benefit only the Premises (a) if an act or omission by Tenant or any Tenant Party causes or triggers the need for such repair, replacement or service (but only to the extent the cost of which is not covered by insurance), or (b) if Tenant requests a repair, replacement, or service that Landlord is not otherwise obligated to perform or provide under the terms of this Lease. The cost of any such repair, replacement or service shall be excluded from the Operating Expenses if caused by any other tenant of the Building that is directly invoiced for such repair, replacement, or service. Base Rent, Tenant's Share of Operating Expenses and all other amounts payable by Tenant to Landlord hereunder are collectively referred to herein as "**Rent**."

6. **Security Deposit**. Tenant shall deposit with Landlord, upon delivery of an executed copy of this Lease to Landlord, a security deposit ("**Security Deposit**") for the performance of all of Tenant's obligations hereunder in the amount set forth in the Basic Lease Provisions, which Security Deposit shall be in the form of an unconditional and irrevocable letter of credit ("**Letter of Credit**"): (i) in form and substance satisfactory to Landlord, (ii) naming Landlord as beneficiary, (iii) expressly allowing Landlord to draw upon it at any time from time to time by delivering to the issuer notice that Landlord is entitled to draw thereunder, (iv) issued by an FDIC-insured financial institution reasonably satisfactory to Landlord, and

(v) redeemable by presentation of a sight draft in Maryland or California. As of the Commencement Date, Silicon Valley Bank is an FDIC-insured financial institution reasonably satisfactory to Landlord. If Tenant does not provide Landlord with a substitute Letter of Credit complying with all of the requirements hereof at least 10 days before the stated expiration date of any then current Letter of Credit, Landlord shall have the right to draw the full amount of the current Letter of Credit and hold the funds drawn in cash without obligation for interest thereon as the Security Deposit. The Security Deposit shall be held by Landlord as security for the performance of Tenant's obligations under this Lease. The Security Deposit is not an advance rental deposit or a measure of Landlord's damages in case of Tenant's default. Upon each occurrence of a Default (as defined in Section 20), Landlord may use all or any part of the Security Deposit to pay delinquent payments due under this Lease, and the cost of any damage, injury, expense or liability caused by such Default, without prejudice to any other remedy provided herein or provided by law. Upon any such use of all or any portion of the Security Deposit, Tenant shall pay Landlord within 5 business days after written demand the amount that will restore the Security Deposit to the amount set forth in the Basic Lease Provisions. Tenant hereby waives the provisions of any law, now or hereafter in force, which provide that Landlord may claim from a security deposit only those sums reasonably necessary to remedy defaults in the payment of Rent, to repair damage caused by Tenant or to clean the Premises, it being agreed that Landlord may, in addition, claim those sums reasonably necessary to compensate Landlord for any other actual loss or damage, foreseeable or unforeseeable, caused by the act or omission of Tenant or any officer, employee, agent or invitee of Tenant that constitutes a Default hereunder. Upon bankruptcy or other debtor-creditor proceedings involving Tenant, the Security Deposit shall be deemed to be applied first to the payment of Rent and other charges due Landlord for periods prior to the filing of such proceedings. If Tenant shall fully perform every provision of this Lease to be performed by Tenant, the Security Deposit, or any balance thereof (i.e., after deducting therefrom all amounts to which Landlord is entitled under the provisions of this Lease), shall be returned to Tenant (or, at Landlord's option, to the last assignee of Tenant's interest hereunder) within 90 days after the expiration or earlier termination of this Lease.

If Landlord transfers its interest in the Project or this Lease, Landlord shall either (a) transfer any Security Deposit then held by Landlord to a person or entity assuming Landlord's obligations under this Section 6, or (b) return to Tenant any Security Deposit then held by Landlord and remaining after the deductions permitted herein. Upon such transfer to such transferee or the return of the Security Deposit to Tenant, Landlord shall have no further obligation with respect to the Security Deposit, and Tenant's right to the return of the Security Deposit shall apply solely against Landlord's transferee. Landlord's obligation respecting the Security Deposit is that of a debtor, not a trustee, and no interest shall accrue thereon.

7. **Use**. The Premises shall be used solely for the Permitted Use set forth in the Basic Lease Provisions, and in compliance with all applicable Legal Requirements. As used in the Lease, "**Legal Requirements**" (collectively, and each, a "**Legal Requirement**") shall mean all laws, orders, judgments, ordinances, regulations, codes, directives, permits, licenses, covenants and restrictions now or hereafter applicable to, as the context requires, (i) the Premises, the Building, and/or the Project, and to the use and occupancy thereof, including, without limitation, the Americans With Disabilities Act, 42 U.S.C. § 12101, et seq. (together with the regulations promulgated pursuant thereto, "**ADA**") and/or (ii) Landlord and/or Tenant. Tenant shall, upon 5 business days' written notice from Landlord, discontinue any use of the Premises that is declared by any Governmental Authority (as defined in Section 9) having jurisdiction to be a violation of a Legal Requirement. Tenant will not use or permit the Premises to be used for any purpose or in any manner that would void Tenant's or Landlord's insurance. Tenant shall not permit any part of the Premises to be used as a "place of public accommodation", as defined in the ADA or any similar legal requirement. Tenant shall reimburse Landlord within 30 days after written demand for any additional premium charged under any such insurance policy then maintained by Landlord for the Project by reason of Tenant's failure to comply with the provisions of this Section or otherwise caused by Tenant's use and/or occupancy of the Premises in violation of this Section. Tenant will use the Premises in a careful, safe and lawful manner and will not commit or permit waste, overload the floor or structure of the Premises, subject the Premises to use that would damage the Premises or materially obstruct or interfere with the rights of Landlord or other tenants or occupants of the Project (Landlord agreeing that the use of the Premises for the Permitted Use

will not so obstruct or interfere with such rights), including conducting or giving notice of any auction, liquidation, or going out of business sale on the Premises, or using or allowing the Premises to be used for any unlawful purpose. Tenant shall cause any equipment or machinery to be installed in the Premises so as to reasonably prevent sounds or vibrations from the Premises from extending into Common Areas, or other space in the Project. Tenant shall not place any machinery or equipment weighing 500 pounds or more in or upon the Premises or transport or move such items through the Common Areas of the Project or in the Project elevators without the prior written consent of Landlord, which consent shall not be unreasonably withheld, delayed, or conditioned. Except as may be provided under the Tenant Work Letter, Tenant shall not, without the prior written consent of Landlord (which consent shall not be unreasonably withheld, delayed, or conditioned), use the Premises in any manner that will require ventilation, air exchange, heating, gas, steam, electricity or water beyond the existing capacity of the Building as proportionately allocated to the Premises based upon Tenant's Share as usually furnished for the Permitted Use.

(a) **Modifications to Common Areas**. Landlord shall, as an Operating Expense (to the extent such Legal Requirement is first generally applicable to the Building after the Lease Commencement Date and subject to the provisions of Section 5 requiring amortization of costs of capital items) or at Tenant's expense (to the extent such Legal Requirement is applicable solely by reason of Tenant's, as compared to other biotechnology or laboratory tenants of the Project, particular use of the Premises) make any alterations, repairs, replacements, or modifications to the Common Areas and to the exterior, structure, and roof of the Building that are required by Legal Requirements, including the ADA. Tenant, at its sole expense, shall make any alterations, repairs, replacements, or modifications to the interior of the Premises that are required by Legal Requirements (including, without limitation, compliance of the Premises with the ADA). Except to the extent such non-compliance (i) exists on the date Landlord Delivers the Premises to Tenant or (ii) is created by any alterations, repairs, replacements, or modifications made to the Premises, the Common Areas, or the Building by or on behalf of Landlord (except as may be required to comply with any Legal Requirement), Tenant, at its sole expense, shall make any alterations, repairs, replacements, or modifications to the interior of the Premises that are required by Legal Requirements (including, without limitation, compliance of the Premises with the ADA). Notwithstanding any other provision herein to the contrary, Tenant shall be responsible for any and all demands, claims, liabilities, losses, costs, expenses, actions, causes of action, damages or judgments, and all reasonable expenses incurred in investigating or resisting the same (including, without limitation, reasonable attorneys' fees, charges and disbursements and costs of suit) (collectively, "**Claims**") arising out of or in connection with Tenant's violation of or failure to comply with Legal Requirements (to the extent such compliance is the obligation of Tenant under this Lease), and Tenant shall indemnify, defend, hold and save Landlord harmless from and against any and all such Claims.

(b) **Alexandria FitLab**. As long as Tenant is not in Default, Tenant, its subtenants and their on-site employees (including any individual independent contractors who are resident on-site on a regular and continuous basis) (collectively, "**On-Site Personnel**") shall have a non-exclusive license to use on a complimentary basis the Alexandria FitLab located at 910 Clopper Road, Gaithersburg, Maryland that is owned by an affiliate of Landlord ("**910 Clopper Landlord**"). In no event shall the number of On-Site Personnel having such a license exceed 20 individuals. Although the Alexandria FitLab does not form a part of the Premises, the applicable provisions of this Lease (a) governing Tenant's compliance with Legal Requirements, (b) imposing obligations on Tenant for matters occurring in, on, within, or about the Premises or arising out of the use or occupancy of the Premises (including, but not limited to, those obligations relating to insurance and indemnification), or (c) limiting Landlord's liability, shall apply with equal force to Tenant's use of the Alexandria FitLab. Landlord shall have the right at any time and from time to time in the exercise of its sole and absolute subjective discretion to eliminate, reconfigure, relocate, or modify the Alexandria FitLab or modify its hours of availability for Tenant's use, it being understood and agreed that Landlord makes no guaranty, assurance, or representation to Tenant that the Alexandria FitLab will remain available for use by Tenant during all or any part of the Term; provided however, that any such changes shall be applied to Tenant in a non-discriminatory manner vis-à-vis all other permitted users of the Alexandria FitLab.

Landlord or its designee may specifically condition the use of the Alexandria FitLab by any On-Site Personnel upon such On-Site Personnel's execution and delivery of the standard license, indemnification, and waiver agreement required by Landlord or, if applicable, any operator of the Alexandria FitLab. Tenant and the On-Site Personnel shall be required to comply with all of the reasonable and non-discriminatory rules, regulations, conditions, and scheduling procedures of the 910 Clopper Landlord in connection with the use of the Alexandria FitLab. As of the Commencement Date, Tenant shall cause the 910 Clopper Landlord to be named as an additional insured under the commercial general liability policy of insurance that Tenant is required to maintain under this Lease. If Tenant Defaults in its obligations under this Section 7(b), Landlord shall have the right, in addition to any other rights and remedies available to Landlord for a Default by Tenant, to terminate immediately the license hereby granted to Tenant to use the Alexandria FitLab. The expiration or earlier termination of this Lease shall automatically terminate the license hereby granted to Tenant to so use the Alexandria FitLab.

(c) **Loading Docks**. The Building will contain 2 loading docks as identified on **Exhibit H** attached hereto. Tenant shall have (i) an exclusive license to use one of the loading docks and associated receiving area serving the Building designated by Tenant by written notice to Landlord given not later than the Lease Commencement Date ("**Exclusive Loading Dock**"), and (ii) a non-exclusive license to use the other loading dock and associated receiving area serving the Building in common with other tenants in the Building in accordance with the Legal Requirements and the terms and conditions of this paragraph ("**Non-Exclusive Loading Dock**"; together with the Exclusive Loading Dock, the "**Loading Docks**"). Tenant shall be permitted at its sole cost and expense, to install, maintain, repair, replace, and remove signage, as reasonably approved by Landlord, at and/or over the Exclusive Loading Dock denoting that the Exclusive Loading Dock is for Tenant's exclusive use, and to install fencing, caging, or other comparable barrier in the associated receiving area (together with the Exclusive Loading Dock, the "**Exclusive Loading Dock Area**") as reasonably approved by Landlord, to segregate the Exclusive Loading Dock, and to use the Exclusive Loading Dock Area for staging and storage purposes as permitted by this Lease. The license granted hereby is personal to Tenant and shall not be assigned or otherwise pledged or transferred, directly or indirectly, except in conjunction with a Permitted Transfer (as defined in Section 22). Tenant shall use the Loading Docks in a manner that will not unreasonably interfere with the rights of any tenants or occupants in the Building. Landlord assumes no responsibility for enforcing Tenant's rights or for protecting the Loading Docks from any person or entity, including, but not limited to, other tenants or occupants of the Building. During any period of replacement, repair, or maintenance of the Loading Docks when they are not operational, Landlord shall have no obligation to provide Tenant with alternative, supplemental, temporary, or back-up loading docks, provided that Landlord shall perform such replacement, repair, or maintenance in a manner that minimizes, to the extent reasonably practicable, the duration and extent of any material interference with Tenant's ability to use the Loading Docks, especially the Exclusive Loading Dock. Except as expressly set forth in Section 30(i) below, Landlord makes no warranties of any kind, express or implied, with respect to the Loading Docks, and Landlord disclaims any such warranties. Without limiting the foregoing, Tenant expressly acknowledges and agrees that Landlord does not guaranty or warrant that the Loading Docks will be operational at all times, will be of sufficient capacity to accommodate Tenant's use thereof, will be free of Hazardous Materials except as expressly set forth in Section 30(i) below, or will function or perform adequately, and Landlord shall not be liable for any damages resulting from the failure of the Loading Docks. Although the Loading Docks do not form a part of the Premises, the applicable provisions of this Lease (A) governing Tenant's compliance with Legal Requirements, (B) imposing obligations on Tenant for matters occurring in, on, within, or about the Premises or arising out of the use or occupancy of the Premises (including, but not limited to, those obligations relating to insurance, indemnification, Hazardous Materials Clearance (as defined in Section 18), and Environmental Requirements (as defined in Section 30), or (C) limiting Landlord's liability, shall apply with equal force to Tenant's use of the Loading Docks.

(1) If Tenant defaults in its obligations under this Section 7(c) and fails to cure such default within 3 business days after written notice from Landlord, Landlord shall have the right, in addition to any other rights and remedies available to Landlord for a Default by Tenant, to suspend immediately

Tenant's license to use the Loading Docks. If Tenant cures such default, Tenant's license to use the Loading Docks shall be immediately restored.

(2) Tenant shall have the right to enforce its right to use the Exclusive Loading Dock Area by posting warning notices on unauthorized vehicles blocking Tenant's use of the Exclusive Loading Dock and/or causing any such vehicle to be towed by a reputable towing company engaged by Tenant (with any towing and storage charges being payable by the owner of any such towed vehicle). Tenant shall indemnify, defend, hold and save Landlord harmless from and against any and all such Claims arising out of Tenant's enforcement of its right to use the Exclusive Loading Dock Area.

(3) The expiration or earlier termination of this Lease shall automatically terminate the license hereby granted to Tenant to so use the Loading Docks. The terms and provisions of this paragraph shall survive the expiration or earlier termination of this Lease.

(d) **Fiber Optic and T-1 Internet Service**. Tenant shall have the right to tie into the Building's fiber optic and T-1 internet trunk lines (including the right to install and maintain equipment and lines in the Building's point of entry, risers, and chases as reasonably required by Tenant and reasonably allocated by Landlord to provide connectivity to the Premises) at no additional fee or rent payable to Landlord, but Tenant shall be responsible for the cost of such tying in and any fees charged by the applicable service provider for access to and use of such fiber optic trunk line. As of the Commencement Date, the service providers to the Project are Comcast, Verizon, and Zayo.

8. **Holding Over**. If, with Landlord's express written consent, Tenant retains possession of the Premises after the termination of the Term, (i) unless otherwise agreed by Landlord in such written consent, such possession shall be subject to immediate termination by Landlord at any time, (ii) all of the other terms and provisions of this Lease (including, without limitation, the adjustment of Base Rent pursuant to Section 4 hereof) shall remain in full force and effect (excluding any expansion or renewal option or other similar right or option) during such holdover period, (iii) Tenant shall continue to pay Base Rent in the amount payable upon the date of the expiration or earlier termination of this Lease or such other amount as Landlord may indicate, in Landlord's sole and absolute discretion, in such written consent (provided such amounts do not exceed the amounts payable by Tenant had Tenant remained in possession of the Premises without the express written consent of Landlord as hereinafter provided), and (iv) all other payments shall continue under the terms of this Lease. If Tenant remains in possession of the Premises after the expiration or earlier termination of the Term without the express written consent of Landlord, (A) Tenant shall become a tenant at sufferance upon the terms of this Lease except that the monthly rental shall be equal to 150% (increasing to 200% after 30 days) of Rent in effect during the last 30 days of the Term, and (B) Tenant shall be responsible for all damages suffered by Landlord resulting from or occasioned by Tenant's holding over (including if such holding over exceeds 30 days, consequential damages if Landlord has advised Tenant in advance of any particular consequential damages that Landlord may incur or suffer as a result of Tenant's holding over from and after such 30 day period, including, without limitation, consequential damages that Landlord may incur or suffer by reason of Landlord's inability to lease the Premises or deliver occupancy to a particular tenant). No holding over by Tenant, whether with or without consent of Landlord, shall operate to extend this Lease except as otherwise expressly provided, and this Section 8 shall not be construed as consent for Tenant to retain possession of the Premises. Acceptance by Landlord of Rent after the expiration of the Term or earlier termination of this Lease shall not result in a renewal or reinstatement of this Lease.

9. **Taxes**. Landlord shall pay, as part of Operating Expenses, all taxes, levies, fees, assessments and governmental charges of any kind, existing as of the Commencement Date or thereafter enacted (collectively referred to as "**Taxes**"), imposed by any federal, state, regional, municipal, local or other governmental authority or agency, including, without limitation, quasi-public agencies (collectively, "**Governmental Authority**") on the Building, or on the Project (as allocable to the Building without duplication), during the Term, including, without limitation, all Taxes: (i) imposed on or measured by or

based, in whole or in part, on rent payable to (or gross receipts received by) Landlord under this Lease or any other lease of space in the Project and/or from the rentals received by Landlord or the owner of any interest in the Project, (ii) based on the square footage, assessed value or other measure or evaluation of any kind of the Premises or the Project, (iii) assessed or imposed by or on the operation or maintenance of any portion of the Premises or the Project, including parking, (iv) assessed or imposed by, or at the direction of, or resulting from Legal Requirements, or interpretations thereof, promulgated by any Governmental Authority, or (v) imposed as a license or other fee, charge, tax, or assessment on Landlord's business of leasing space in the Project. Landlord may contest by appropriate legal proceedings the amount, validity, or application of any Taxes or liens securing Taxes. Taxes shall not include: (A) any net income, capital, stock, succession, transfer, franchise, gift, estate, or inheritance taxes imposed on Landlord except to the extent such taxes are in substitution for any Taxes payable hereunder, (B) any item to the extent otherwise included in Operating Expenses (other than Taxes) or excluded therefrom, (C) costs or fees payable to Governmental Authorities in connection with any future construction, renovation, and/or improvements to the Building, including fees for transit, housing, schools, open space, child care, arts programs, traffic mitigation measures, environmental impact reports, traffic studies, and transportation system management plans, (D) reserves for future Taxes, (E) any personal property taxes attributable to any fine art located at the Building, and (F) interest and penalties incurred as a result of Landlord's late payment of any Taxes. If any such Tax is levied or assessed directly against Tenant, then Tenant shall be responsible for and shall pay the same at such times and in such manner as the taxing authority shall require. Tenant shall pay, prior to delinquency, any and all Taxes levied or assessed against any personal property or trade fixtures placed by Tenant in the Premises, whether levied or assessed against Landlord or Tenant. If any Taxes on Tenant's personal property or trade fixtures are levied against Landlord or Landlord's property, or if the assessed valuation of the Project is increased by a value attributable to improvements in or alterations to the Premises, whether owned by Landlord or Tenant and whether or not affixed to the real property so as to become a part thereof, higher than the base valuation on which Landlord from time-to-time allocates Taxes to all tenants in the Project, Landlord shall have the right, but not the obligation, to pay such Taxes. The amount of any such payment by Landlord shall constitute Additional Rent due from Tenant to Landlord within 30 days after written demand (accompanied by reasonably detailed supporting documentation thereof).

(a) **Tax Consultant**. Landlord shall, as an Operating Expense, pay the reasonable costs to engage a reputable third party tax consultant to review annually the Taxes to evaluate whether it would be appropriate to contest the Taxes, and Landlord shall furnish such consultant's analysis and recommendations to Tenant. Landlord, however, retains the ultimate right, in the exercise of its sole judgment, whether to contest the Taxes.

(b) **Tax Abatement or Refund; Jurisdictional Incentives**. If Landlord or the owner of any interest in the Project receives an abatement or refund of Taxes or other financial incentives in a definitive dollar amount from the State of Maryland, Tenant shall be entitled to Tenant's Share with respect to such abatement, refund, or incentives solely allocable to the Building and Tenant's Project Share as to such abatement, refund, or incentives allocable to the Project, to be applied by Landlord against Rent next coming due (or, if no further Rent is due from Tenant, by a cash payment by Landlord to Tenant). If Tenant applies for and receives any financial incentives from the State of Maryland for the Premises or its operations therein, Tenant shall be entitled to the sole benefit of any such incentives without claim thereon by Landlord or any other party.

10. **Parking**. Subject to all Legal Requirements, Force Majeure, a Taking (as defined in Section 19 below) and the exercise by Landlord of its rights hereunder, Tenant shall have the right, in common with other tenants of the Project pro rata in accordance with the rentable area of the Premises and the rentable areas of the Project occupied by such other tenants, to park in those areas of the Project designated for non-reserved parking, subject in each case to Landlord's reasonable and non-discriminatory rules and regulations with respect thereto. Landlord shall not charge Tenant for such parking during the Term. Landlord may allocate parking spaces among Tenant and other tenants in the Project pro rata as

described above if Landlord determines in good faith that such parking facilities are becoming overcrowded. In addition, Tenant shall have the exclusive right to 10 reserved parking spaces in the locations to be mutually agreed upon by Landlord and Tenant, acting reasonably and in good faith, and Tenant shall, at its sole cost, have the right to mark such parking spaces as "Reserved" in accordance with applicable Legal Requirements. Landlord shall not be responsible for enforcing Tenant's parking rights against any third parties, including other tenants of the Project or for enforcing any such reservation of parking spaces. Tenant shall have the right to enforce its right to reserved parking spaces by posting warning notices on unauthorized vehicles parking in Tenant's reserved spaces and/or causing any such vehicle to be towed by a reputable towing company engaged by Tenant (with any towing and storage charges being payable by the owner of any such towed vehicle). Tenant shall indemnify, defend, hold and save Landlord harmless from and against any and all such Claims arising out of Tenant's enforcement of its reserved parking rights. As of the Commencement Date, the current parking ratio is 2.42 standard sized spaces per 1,000 leased rentable square feet.

11. **Utilities, Services.**

(a) **General; Interruption**. Landlord shall provide, subject to the terms of this Section 11, janitorial services to the Common Areas, water, electricity, heat, light, power, telephone, sewer, natural gas and other utilities (including fire sprinklers), and refuse and trash collection (collectively, "**Utilities**"). Landlord shall pay, as Operating Expenses or subject to Tenant's reimbursement obligation, for all Utilities used on the Premises during the Term, all maintenance charges for Utilities during the Term, and any storm sewer charges or other similar charges for Utilities imposed by any Governmental Authority or Utility provider during the Term, and any taxes, penalties, surcharges or similar charges thereon. Tenant may cause, at its expense and subject to Landlord's reasonable approval, any Utilities to be separately metered and charged directly to Tenant by the provider, in which event (i) Tenant shall pay directly to the Utility provider, prior to delinquency, any separately metered Utilities and services that may be furnished to Tenant or the Premises during the Term, and (ii) Operating Expenses shall be adjusted to exclude therefrom costs to provide any such separately-metered Utilities to tenants of the Building and/or Project. Tenant shall pay directly to the Utility provider, prior to delinquency, any separately metered Utilities and services that may be furnished to Tenant or the Premises during the Term. Tenant shall pay, as part of Operating Expenses, its share of all charges for jointly metered Utilities based upon consumption, as reasonably determined by Landlord. Except as provided in this paragraph, no interruption or failure of Utilities from any cause whatsoever shall result in eviction or constructive eviction of Tenant, termination of this Lease or the abatement of Rent. Tenant agrees to limit use of water and sewer with respect to Common Areas to normal restroom use. If electricity, water, or HVAC service to the Premises is interrupted by reason of the gross negligence or willful misconduct of Landlord and such interruption shall continue for more than 5 consecutive business days, or 30 business days (regardless of whether consecutive) out of 45 consecutive business days, and shall render any material portion of the Premises unusable for the purpose of conducting Tenant's business as permitted under this Lease, then to the extent (and only to the extent) that Landlord receives insurance proceeds from its carrier in respect of such interruption, all Base Rent payable hereunder with respect to the affected portion of the Premises shall be abated to such extent as follows: (A) in the case of an interruption of 5 consecutive business days, Base Rent shall abate for such portion of the Premises for the period beginning on the 6th consecutive business day of such failure, and shall continue until substantial use of the affected portion of the Premises for the normal conduct of Tenant's business is restored; and (B) in the case of an interruption of 30 business days out of 45 consecutive business days, Base Rent shall abate, during that calendar year, immediately for any additional business day after the 30th business day of interruption and shall continue until substantial use of the affected portion of the Premises for the normal conduct of Tenant's business is restored.

(b) **Emergency Generator**. Landlord's sole obligation for either providing emergency generators or providing emergency back-up power to Tenant shall be: (i) to provide emergency generators with not less than the stated capacity of the emergency generators to be located in the Building as of the Lease Commencement Date (which capacity shall not be less than 750 Kw, (ii) to make connection of such

emergency generators to the Premises available to Tenant during the Term, and (iii) to contract with a third party to maintain such emergency generators as per the manufacturer's standard maintenance guidelines. Landlord shall have no obligation to provide Tenant with operational emergency generators or back-up power or to supervise, oversee, and confirm that the third party maintaining the emergency generators is maintaining the generators as per the manufacturer's standard guidelines or otherwise. During any period of replacement, repair, or maintenance of the emergency generators when the emergency generators are not operational, including any delays thereto due to the inability to obtain parts or replacement equipment, Landlord shall have no obligation to provide Tenant with an alternative back-up generator or generators or alternative sources of back-up power. Tenant expressly acknowledges and agrees that Landlord does not guaranty that such emergency generators will be operational at all times or that emergency power will be available to the Premises when needed, provided that if Tenant notifies Landlord that an emergency generator is not operational, Landlord shall use commercially reasonable efforts in good faith to engage or contact as soon as reasonably practicable under the circumstances a third party service technician to repair the emergency generator so that it becomes operational.

(c) **Dedicated Generator for Tenant's Use**. Subject to the satisfaction, in Landlord's sole, but reasonable, judgment, of all of the conditions set forth in this Section 11(c), Tenant may, at its sole cost and expense, install and once installed shall maintain in the location shown on **Exhibit H** attached hereto as "Regenxbio Generator" and dedicated to Tenant's exclusive use as provided herein ("**Dedicated Generator Area**") for use in connection with Tenant's business in the Premises, one emergency backup generator with a capacity of up to [1 Mw], and all related equipment, piping, venting, and metering devices (collectively, "**Dedicated Generator**") and an above-ground fuel storage tank with adequate capacity as mutually and reasonably agreed by Landlord and Tenant ("**Fuel Tank**").

(1) **Installation; Maintenance; Removal**. The Dedicated Generator and Fuel Tank shall be installed by a contractor reasonably acceptable to Landlord and thereafter shall be properly maintained by Tenant, all at Tenant's sole expense. Tenant shall be responsible for connecting the Dedicated Generator to the electrical supply system serving the Premises in accordance with the reasonable requirements of Landlord's electrical engineer/contractor. At the expiration or earlier termination of the Term, the Dedicated Generator and Fuel Tank shall, at the election of Tenant, be removed at Tenant's sole cost and expense and the area on which they were located shall be returned to the condition it was in prior to the installation of the Dedicated Generator and Fuel Tank. If Tenant does not elect to so remove the Dedicated Generator and Fuel Tank, Landlord shall acquire sole ownership of the Dedicated Generator and Fuel Tank free and clear of all liens and encumbrances so that Landlord has good and marketable title thereto and Tenant shall execute and deliver to Landlord a bill of sale therefor (in the absence of a bill of sale, this Section shall constitute the bill of sale). Tenant shall pay all governmental fees, charges, and taxes and all hook-up and disconnection fees associated with Tenant's use of the Dedicated Generator and Landlord shall have no liability therefor. All of the applicable provisions of this Lease, including, without limitation, the insurance, maintenance, repair, release, and indemnification provisions set forth in this Lease shall apply and be applicable to Tenant's installation, operation, maintenance, and removal of the Dedicated Generator and Fuel Tank. Tenant shall, at its sole cost and expense, secure all necessary permits and approvals from all applicable Governmental Authorities for the size, placement, installation, and removal of the Dedicated Generator and Fuel Tank. If Tenant is unable to obtain the necessary approvals and permits from any Governmental Authorities for the Dedicated Generator and Fuel Tank, Tenant shall have no remedy, claim, cause of action, or recourse against Landlord (provided Landlord complies with its obligations under the next succeeding sentence hereof), nor shall such failure or inability to obtain any necessary permits or approvals provide Tenant the right to terminate this Lease. Landlord shall cooperate with Tenant in securing all necessary permits and approvals for the Dedicated Generator and Fuel Tank; provided, however, that Landlord shall not be obligated to spend any monies in connection with obtaining such permits and approvals and shall not be required to perform any act or otherwise take any action that would impose or create any liabilities on Landlord. Without limiting any other obligations of Tenant set forth in this Lease, Tenant shall, at its sole cost and expense, install, maintain, and repair the Dedicated Generator and Fuel Tank and keep such equipment in good

order and operating condition. The Fuel Tank shall serve as the fuel source for the Dedicated Generator to be installed by Tenant. Any installation work described in this Section shall comply with the applicable terms and conditions of this Lease.

(2) **Insurance**. If the presence of the Fuel Tank and all related infrastructure (including, but not limited to, piping, venting, and metering devices) is the sole cause of an increase in Landlord's property or liability insurance premiums for the Building, Landlord shall so inform Tenant in writing (which notice shall include evidence from the insurer requiring same) and Tenant shall pay to Landlord as Additional Rent within 30 days after demand therefor an amount equal to such increase.

(3) **Maintenance**. Tenant shall, at its sole cost and expense, at all times during the Term maintain with a qualified contractor a maintenance and repair contract ("**Dedicated Generator Maintenance Contract**") for the Dedicated Generator. The Dedicated Generator Maintenance Contract shall be in form and content reasonably satisfactory to Landlord. Landlord shall be a third party beneficiary of the Dedicated Generator Maintenance Contract and, within 30 days after Landlord's request, Tenant shall deliver a copy of the Dedicated Generator Maintenance Contract to Landlord.

(4) **Testing**. Tenant shall be allowed to test the Dedicated Generator periodically (but no more often than once a week) at a time or times mutually and reasonably agreed to by Landlord and Tenant. Tenant shall as soon as reasonably practicable under the circumstances take all necessary actions to cause the Dedicated Generator to comply with applicable Legal Requirements governing the air quality of the Building and to prevent any exhaust emitted from the Dedicated Generator from adversely affecting the indoor air quality of the Building. No promotional or advertising matter or signage shall be attached to, painted, or displayed on the Dedicated Generator.

(5) **Compliance**. Tenant shall, at its sole cost and expense, comply with all Legal Requirements that may now or hereafter be applicable to the Dedicated Generator Area or to the use, operation, repair, maintenance, and replacement of the Dedicated Generator. The Legal Requirements include, but are not limited to, Legal Requirements (1) requiring that Tenant obtain the necessary permits and approvals for the use, operation, repair, maintenance, and replacement of the Dedicated Generator, (2) establishing standards for any form of pollution, (3) requiring the person discharging or permitting the discharging of Hazardous Materials or participating in the discharge or spilling of Hazardous Materials to report such discharge or spill to the proper Governmental Authorities, and (4) requiring certain inspections, gauging, and recordkeeping. Tenant shall pay all costs, expenses, claims, fines, penalties, and damages that may in any manner arise out of or be imposed because of the failure of Tenant to comply with this Section 11(c). Tenant shall indemnify, defend, and hold harmless Landlord and its officers, members, directors, employees, managers, employees, agents, and contractors from all Claims arising from Tenant's failure to comply with this Section 11(c). Each party shall promptly give notice to the other of any notice of violation of any such Legal Requirements received by such party.

(d) **Utility Data**. Tenant agrees to provide Landlord with access to Tenant's water and/or energy usage data on a monthly basis, either, at Tenant's sole option, by providing Tenant's applicable utility login credentials to Landlord's designated online portal, or by another delivery method reasonably agreed to by Landlord and Tenant. The costs and expenses incurred by Landlord in connection with receiving and analyzing such water and/or energy usage data (including, without limitation, as may be required pursuant to applicable Legal Requirements) shall be included as part of Operating Expenses.

12. **Alterations and Tenant's Property**. Except for the Base Building Work and the Tenant Improvements (which are governed by the terms and conditions of the Work Letters), any alterations, additions, or improvements made to the Premises by or on behalf of Tenant, including additional locks or bolts of any kind or nature upon any doors or windows in the Premises, but excluding installation, removal or realignment of equipment and/or furniture systems (other than removal of furniture systems owned or

paid for by Landlord) not involving any modifications to the structure or connections (other than by ordinary plugs or jacks) to Building Systems (as defined in Section 13) ("**Alterations**") shall be subject to Landlord's prior written consent, which may be given or withheld in Landlord's sole discretion if any such Alteration affects the structure or Building Systems and does not constitute a Special Structural Alteration (as defined in Section 12(c) below), but which shall otherwise not be unreasonably withheld, conditioned, or delayed. Tenant may construct Alterations in the Premises that are nonstructural and do not materially or adversely affect the Building Systems without Landlord's prior approval if the aggregate cost of all such work in any 12 month period does not exceed $250,000 (a "**Notice-Only Alteration**"), provided Tenant notifies Landlord in writing of such intended Notice-Only Alteration, and such notice shall be accompanied by plans, specifications and such other information concerning the nature and cost of the Notice-Only Alteration as may be reasonably requested by Landlord, which notice and accompanying materials shall be delivered to Landlord not less than 15 business days in advance of any proposed construction. If Landlord approves any Alterations that require such approval, Landlord may impose such conditions on Tenant in connection with the commencement, performance and completion of such Alterations (including any Special Structural Alteration) as Landlord may deem appropriate in Landlord's reasonable discretion. Any request for approval shall be in writing, delivered not less than 15 business days in advance of any proposed construction, and accompanied by plans, specifications, bid proposals, work contracts and such other information reasonably documenting the nature and cost of the alterations, including the identities and mailing addresses of all persons performing work or supplying materials. Landlord's right to review plans and specifications and to monitor construction shall be solely for its own benefit, and Landlord shall have no duty to ensure that such plans and specifications or construction comply with applicable Legal Requirements. Landlord shall either approve or disapprove such plans and specifications in writing within 7 business days after receipt thereof. Any disapproval shall be accompanied by a reasonably detailed explanation for the disapproval. If Landlord does not respond to such request within such 7 business day period, Tenant may send a second written notice to Landlord (together with a concurrent copy sent by a reputable overnight delivery service providing receipted evidence of delivery to Mr. Lawrence J. Diamond, Alexandria Real Estate Equities, Inc., 946 Clopper Road, Gaithersburg, Maryland 20878), requesting Landlord's approval of such Alterations. If Landlord does not respond within 5 business days after receipt of such second notice, such request for Alterations shall be deemed to have been approved by Landlord. Such second notice to Landlord shall state the following in 10-point or larger in bold face type in capitalized letters:

LANDLORD'S FAILURE TO RESPOND WITHIN FIVE (5) BUSINESS DAYS AFTER RECEIPT OF THIS REQUEST SHALL MEAN THAT LANDLORD HAS BEEN DEEMED TO HAVE APPROVED THE REQUEST FOR ALTERATIONS DESCRIBED IN THIS REQUEST.

Tenant shall cause, at its sole cost and expense, all Alterations to comply with the insurance requirements set forth in this Lease and with Legal Requirements and shall implement at its sole cost and expense any alteration or modification required by Legal Requirements as a result of any Alterations. Tenant shall pay to Landlord, as Additional Rent, within 30 days after written demand an amount equal to 3% of the hard construction costs incurred by Tenant in connection with any Alteration that requires Landlord's approval to cover Landlord's overhead and expenses for plan review, coordination, scheduling, and inspection. Before Tenant begins any Alteration, Landlord may post on and about the Premises notices of non-responsibility pursuant to applicable law. Tenant shall reimburse Landlord for, and indemnify and hold Landlord harmless from, any expense incurred by Landlord by reason of faulty work done by Tenant or its contractors or inadequate cleanup.

(a) **Security for Completing Alterations**. Tenant (but only if Tenant is other than REGENXBIO Inc. or an assignee of REGENXBIO, Inc. pursuant to a Permitted Transfer) shall furnish security or make other arrangements satisfactory to Landlord to assure payment for the completion of all Alterations work free and clear of liens, and shall provide (and cause each contractor or subcontractor to

provide) certificates of insurance (in form and substance reasonably satisfactory to Landlord; form ACORD 25 for commercial liability and form ACORD 28 for commercial property are satisfactory to Landlord) for workers' compensation and other coverage in amounts and from an insurance company satisfactory to Landlord protecting Landlord against liability for personal injury or property damage during construction. Upon completion of any Alterations, Tenant shall deliver to Landlord: (i) sworn statements setting forth the names of all contractors and subcontractors who did the work and final lien waivers from all such contractors and subcontractors; and (ii) "as built" plans for any such Alteration.

(b) **Tenant's Property; Restoration**. Other than (i) the items, if any, listed on **Exhibit F** attached hereto, (ii) any items agreed by Landlord in writing to be included on **Exhibit F** in the future, and (iii) any trade fixtures, machinery, equipment and other personal property (including built-in machinery and equipment) not paid for out of the TI Allowance (as defined in the Tenant Work Letter) that may be removed without material damage to the Premises, unless such damage shall be repaired (including capping or terminating utility hook-ups behind walls) by Tenant during the Term (collectively, "**Tenant's Property**"), all property of any kind paid for with the TI Allowance, all Alterations, real property fixtures, built-in casework and cabinets and other similar additions and improvements built into the Premises so as to become an integral part of the Premises such as fume hoods that penetrate the roof or plenum area, built-in cold rooms, built-in warm rooms, walk-in cold rooms, walk-in warm rooms, deionized water systems, glass washing equipment, autoclaves, chillers, built-in plumbing, electrical and mechanical equipment and systems (including wiring and cabling), and any power generator and transfer switch (collectively, "**Installations**") shall be and shall remain the property of Landlord during the Term and following the expiration or earlier termination of the Term, shall not be removed by Tenant at any time during the Term and shall remain upon and be surrendered with the Premises as a part thereof in accordance with Section 28 following the expiration or earlier termination of this Lease, it being understood and agreed that (A) with the exception of Special Structural Alterations, Tenant shall have no obligation whatsoever to remove any Installations from the Premises or the Building upon the expiration or earlier termination of this Lease or to restore the Premises or the Building to their condition prior to the installation thereof, and (B) any equipment installed by Tenant (including, but not limited to, stand-alone autoclaves and steam sterilizers), may be removed by Tenant regardless of the degree of integration into the Premises, so long as Tenant, at its sole cost and expense, repairs any damage caused by such removal (including, but not limited to, capping or terminating utility hook-ups behind walls). During any such restoration period, Tenant shall pay Rent to Landlord as provided herein as if such space were otherwise occupied by Tenant.

(c) **Special Structural Alterations**. Subject to the terms of this Section 12 and notwithstanding any contrary provision contained in this Lease, (i) a Special Structural Alteration shall constitute and be treated as an Alteration except that this Section 12(c) shall govern Landlord's approval standard for a Special Structural Alteration and Tenant's obligations to remove a Special Structural Alteration and to restore the Premises based on such removal, and (ii) Landlord shall not unreasonably withheld, delay, or condition its approval for a Special Structural Alteration requested by Tenant. In assessing whether to grant or withhold its approval, Landlord shall have the right to engage a structural engineer to advise Landlord. Tenant shall, within 30 days after written request therefor, reimburse Landlord as Additional Rent for the fees and expenses of such structural engineer. On the expiration of earlier termination of the Term, Tenant shall, at its sole cost and expense, remove the Special Structural Alteration if requested to do so by Landlord and repair any damage caused by such removal (including, but not limited to, capping or terminating utility hook-ups behind walls). During any such restoration period, Tenant shall pay Rent to Landlord as provided herein as if such space were otherwise occupied by Tenant. For purposes of this Lease, a "**Special Structural Alteration**" means an installation of additional structural support or bracing and core drilling as needed to accommodate Tenant's equipment to be located in the Premises from time to time, and the performance of slab openings/penetrations for installation of internal stairwells connecting portions of the Premises located on adjacent floors) to Building Systems.

13. **Landlord's Repairs**. Landlord shall, in accordance with the Maintenance Standard (as defined below), maintain the following: (a) as an Operating Expense (subject to the provisions of Section

5), the repair or replacement of the roof membrane, exterior glass, caulking, tuck pointing, brick repair, demising walls, parking areas (both surface and the Parking Garage), the Common Areas of the Building, the base Building HVAC, plumbing, fire sprinklers, elevators and all other building systems serving the Premises and other portions of the Building ("**Building Systems**"), and (b) at Landlord's expense and not as an Operating Expense, the repair or replacement of the roof, foundation, slab, and structural walls of the Building, correction of defects in the original construction of the Building, any repair or replacement to the extent covered under any warranties of Landlord's contractors or vendors, and of any damage to the Premises caused by the gross negligence or willful misconduct of Landlord or its employees. Losses and damages caused by Tenant, or by any of Tenant's agents, servants, employees, invitees, and contractors (collectively, "**Tenant Parties**"), shall be repaired by Landlord, to the extent not covered by insurance, at Tenant's sole cost and expense. Landlord reserves the right to stop Building Systems services when necessary (i) by reason of accident or emergency, or (ii) for planned repairs, alterations or improvements, which are, in the reasonable judgment of Landlord, desirable or necessary to be made, until said repairs, alterations or improvements shall have been completed. Except as otherwise expressly provided in this Lease, Landlord shall have no responsibility or liability for failure to supply Building Systems services during any such period of interruption; provided, however, that Landlord shall (A) except in case of emergency, give Tenant at least 3 business days' advance notice of any planned stoppage of Building Systems services for routine maintenance, repairs, alterations, or improvements, and (B) use all commercially reasonable efforts to minimize the extent and duration of such stoppage (including, where practicable, performing any such maintenance, repairs, alterations, or improvements at times and in manner that will minimize any stoppage of Building Systems services during normal business hours). Tenant shall promptly give Landlord written notice of any repair required by Landlord pursuant to this Section (or with respect to any emergency, oral notice followed immediately by written notice), after which Landlord shall use all commercially reasonable efforts to promptly effect such repair. Landlord shall not be liable for any failure to make any repairs or to perform any maintenance unless such failure shall persist for an unreasonable time after Tenant's written notice of the need for such repairs or maintenance. Tenant waives its rights under any Legal Requirement to terminate this Lease or to make such repairs at Landlord's expense and agrees that the parties' respective rights with respect to such matters shall be solely as set forth herein. Repairs required as the result of fire, earthquake, flood, or other casualty, vandalism, war, or similar cause of damage or destruction shall be controlled by Section 18. Repairs required as a result of a Taking (as defined in Section 19) shall be controlled by Section 19. For purposes of this Lease, "**Maintenance Standard**" means the standards customarily maintained by owners of Class A office/laboratory buildings in the Gaithersburg/Rockville, Maryland market of comparable size and age, reasonable wear and tear excepted, and in compliance with all applicable Legal Requirements.

14. **Tenant's Repairs**.

(a) **General**. Subject to Section 13 hereof, Tenant, at its expense, shall repair, replace and maintain in accordance with the Maintenance Standard all portions of the Premises, including, without limitation, entries, doors, ceilings, interior windows, interior walls, the interior side of demising walls, any supplemental HVAC systems installed by or on behalf of Tenant providing service to the Premises (including any roof-mounted equipment therefor), and the Dedicated Generator and Fuel Tank (if any). Such repair and replacement may include capital expenditures and repairs whose benefit may extend beyond the Term. Should Tenant fail to make any such repair or replacement or fail to maintain the Premises, Landlord shall give Tenant notice of such failure. If Tenant fails to commence cure of such failure within 10 days of Landlord's notice, and thereafter diligently prosecute such cure to completion, Landlord may perform such work and shall be reimbursed by Tenant within 30 days after receipt of Landlord's written demand therefor (together with copies of the paid invoices evidencing the costs incurred by Landlord); provided, however, that if such failure by Tenant creates or could create an emergency, Landlord may immediately commence cure of such failure and shall notify Tenant promptly after such action has been undertaken, and thereafter be entitled to recover the costs of such cure from Tenant as provided in this paragraph. Subject to Sections 17 and 18, Tenant shall bear the full uninsured cost of any repair or replacement to any part of the Project that results from damage caused by Tenant or any Tenant Party and

any repair that benefits only the Premises. For the avoidance of doubt, a repair shall be deemed to benefit only the Premises (i) if an act or omission by Tenant or any Tenant Party causes or triggers the need for such repair (but only to the extent the cost of which repair is not covered by insurance), or (ii) if Tenant requests a repair that Landlord is not otherwise obligated to perform under the terms of this Lease. The cost of any such repair shall be excluded from the Operating Expenses if caused by any other tenant of the Building that is directly invoiced for such repair.

(b) **HVAC Maintenance Contracts**. Tenant, at its expense, shall at all times during the Term maintain with qualified contractors maintenance and repair contracts ("**HVAC Maintenance Contracts**") for any HVAC systems installed by or on behalf of Tenant providing service to the Premises (including any roof-mounted HVAC systems). The HVAC Maintenance Contracts shall be in form and content reasonably satisfactory to Landlord. Landlord shall be a third party beneficiary of the HVAC Maintenance Contracts and, within 30 days after Landlord's request, Tenant shall deliver a copy of the HVAC Maintenance Contracts to Landlord.

15. **Mechanic's Liens**. Tenant shall discharge, by bond or otherwise, any mechanic's lien filed against the Premises or against the Project for work claimed to have been done for, or materials claimed to have been furnished to, Tenant within 20 days after the filing thereof, at Tenant's sole cost and shall otherwise keep the Premises and the Project free from any liens arising out of work performed, materials furnished or obligations incurred by Tenant. Should Tenant fail to discharge timely any lien described herein, Landlord shall have the right, but not the obligation, to pay such claim or post a bond or otherwise provide security to eliminate the lien as a claim against title to the Project and the cost thereof shall be due from Tenant as Additional Rent within 30 days after written demand accompanied by reasonably detailed supporting documentation of such cost. If Tenant shall lease or finance the acquisition of equipment, furnishings, or other personal property of a removable nature utilized by Tenant in the operation of Tenant's business, Tenant agrees that any Uniform Commercial Code Financing Statement filed as a matter of public record by any lessor or creditor of Tenant with respect to such property will upon its face or by exhibit thereto indicate that such Financing Statement is applicable only to removable personal property of Tenant located within the Premises. In no event shall the address of the Project be furnished on the statement without qualifying language as to applicability of the lien only to removable personal property, located in an identified suite held by Tenant.

16. **Indemnification**.

(a) **By Tenant**. Tenant hereby indemnifies and agrees to defend (at Landlord's option and with counsel reasonably acceptable to Landlord), save and hold Landlord harmless from and against any and all Claims for injury or death to persons or damage to property occurring within or about the Premises, arising directly or indirectly out of use or occupancy of the Premises or a breach or default by Tenant in the performance of any of its obligations hereunder, except to the extent caused by the willful misconduct or gross negligence of Landlord or its employees. Landlord shall not be liable to Tenant for, and Tenant assumes all risk of damage to, personal property (including, without limitation, loss of records kept within the Premises). Tenant further waives any and all Claims for injury to Tenant's business or loss of income relating to any such damage or destruction of personal property (including, without limitation, any loss of records). Landlord shall not be liable for any damages arising from any act, omission or neglect of any tenant in the Project or of any other third party.

(b) **By Landlord**. Landlord hereby indemnifies and agrees to defend (at Tenant's option and with counsel reasonably acceptable to Tenant), save and hold Tenant harmless from and against any and all Claims for injury or death to persons or damage to property occurring within or within or about the Common Area caused by the willful misconduct or gross negligence of Landlord or its employees, except to the extent caused by the willful misconduct or negligence of Tenant or its agents or employees.

17. **Insurance**. Landlord shall maintain all risk property and, if applicable, sprinkler damage insurance covering the full replacement cost of the Project or such lesser coverage amount as Landlord may elect provided such coverage amount is not less than 90% of such full replacement cost. Landlord shall further procure and maintain commercial general liability insurance with a single loss limit of not less than $2,000,000 for bodily injury and property damage with respect to the Project. Landlord may, but is not obligated to, maintain such other insurance and additional coverages as it may deem necessary, including, but not limited to, flood, environmental hazard and earthquake, loss or failure of building equipment, errors and omissions, rental loss during the period of repair or rebuilding, workers' compensation insurance and fidelity bonds for employees employed to perform services and insurance for any improvements installed by Tenant or that are in addition to the standard improvements customarily furnished by Landlord without regard to whether or not such are made a part of the Project. For purposes of this Section 17, "such other insurance and additional coverages" as used in the preceding sentence shall be deemed necessary if either (i) they form a part of the insurance coverages maintained by Landlord and its affiliates and parent entities for their portfolio of properties, except to the extent modified by a lender to Landlord or its affiliates or parent entities, or (ii) are consistent with such coverages then being so required by landlords of buildings or projects comparable to the Building or Project in the Gaithersburg/Rockville market area. All such insurance shall be included as part of the Operating Expenses. The Project may be included in a blanket policy (in which case the cost of such insurance allocable to the Project will be determined by Landlord based upon the insurer's cost calculations). Tenant shall also reimburse Landlord for any increased premiums or additional insurance that Landlord reasonably deems necessary as a result of Tenant's use of the Premises not permitted by this Lease.

Tenant, at its sole cost and expense, shall maintain the following: (i) beginning on the Lease Commencement Date and for the balance of the Term, all risk property insurance with business interruption and extra expense coverage, covering the full replacement cost of all property and improvements installed or placed in the Premises by Tenant at Tenant's expense; workers' compensation insurance with no less than the minimum limits required by law; and employer's liability insurance with such limits as required by law; and (ii) beginning on the Commencement Date and for the balance of the Term, commercial general liability insurance, with a minimum limit of not less than $2,000,000 per occurrence for bodily injury and property damage with respect to the Premises. The commercial general liability insurance policy shall name Landlord and Alexandria Real Estate Equities, Inc., and its and their respective members, officers, directors, employees, managers, and agents (collectively, "**Landlord Parties**"), as additional insureds; insure on an occurrence and not a claims-made basis; be issued by insurance companies that have a rating of not less than policyholder rating of A and financial category rating of at least Class X in "Best's Insurance Guide"; shall not be cancelable for nonpayment of premium unless 30 days prior written notice shall have been given to Landlord from the insurer; contain a hostile fire endorsement and a contractual liability endorsement; and provide primary coverage to Landlord (any policy issued to Landlord providing duplicate or similar coverage shall be deemed excess over Tenant's policies). Copies of such policies (if requested by Landlord), or certificates of insurance (in form and substance reasonably satisfactory to Landlord; form ACORD 25 for commercial liability and form ACORD 28 for commercial property are satisfactory to Landlord) showing the limits of coverage required hereunder and showing Landlord as an additional insured, along with reasonable evidence of the payment of premiums for the applicable period, shall be delivered to Landlord by Tenant upon Tenant's execution and delivery of this Lease (with respect to the commercial liability insurance) and upon the Lease Commencement Date (with respect to the commercial property insurance) and upon each renewal of said insurance. Tenant's policy may be a "blanket policy" with an aggregate per location endorsement that specifically provides that the amount of insurance shall not be prejudiced by other losses covered by the policy. Tenant shall, at least 5 days prior to the expiration of such policies, furnish Landlord with renewal certificates.

In each instance where insurance is to name Landlord as an additional insured, Tenant shall upon written request of Landlord also designate and furnish certificates so evidencing Landlord as additional insured to: (i) any lender of Landlord holding a security interest in the Project or any portion thereof, (ii) the landlord under any lease wherein Landlord is tenant of the real property on which the Project is located, if

the interest of Landlord is or shall become that of a tenant under a ground or other underlying lease rather than that of a fee owner, and/or (iii) any management company retained by Landlord to manage the Project.

The property insurance obtained by Landlord and Tenant shall include a waiver of subrogation by the insurers and all rights based upon an assignment from its insured, against Landlord or Tenant, and their respective officers, directors, employees, managers, agents, invitees and contractors ("**Related Parties**"), in connection with any loss or damage thereby insured against. Neither party nor its respective Related Parties shall be liable to the other for loss or damage caused by any risk insured against under property insurance required to be maintained hereunder, and each party waives any claims against the other party, and its respective Related Parties, for such loss or damage. The failure of a party to insure its property shall not void this waiver. Landlord and its respective Related Parties shall not be liable for, and Tenant hereby waives all claims against such parties for, business interruption and losses occasioned thereby sustained by Tenant or any person claiming through Tenant resulting from any accident or occurrence in or upon the Premises or the Project from any cause whatsoever. If the foregoing waivers shall contravene any law with respect to exculpatory agreements, the liability of Landlord or Tenant shall be deemed not released but shall be secondary to the other's insurer.

Landlord may require insurance policy limits to be raised to conform with requirements of Landlord's lender and/or to bring coverage limits to levels then being generally required of new tenants within the Project that are consistent with such limits then being so required by landlords of buildings or projects comparable to the Building or Project in the Gaithersburg/Rockville market area.

18. **Restoration**. If, at any time during the Term, the Building or the Premises are damaged or destroyed by a fire or other casualty, Landlord shall notify Tenant within 60 days after discovery of such damage as to the amount of time Landlord reasonably estimates it will take to restore the Building and the Premises, as applicable ("**Restoration Period**"). If the Restoration Period is estimated to exceed 12 months ("**Maximum Restoration Period**"), Landlord may, in such notice, elect to terminate this Lease as of the date that is 75 days after the date of discovery of such damage or destruction*;* provided, however, that notwithstanding Landlord's election to restore, Tenant may elect to terminate this Lease by written notice to Landlord delivered within 15 business days of receipt of a notice from Landlord estimating a Restoration Period for the Premises longer than the Maximum Restoration Period. Unless either Landlord or Tenant so elects to terminate this Lease, Landlord shall, subject to receipt of sufficient insurance proceeds (inclusive of any deductible that shall be treated as a current Operating Expense), promptly restore the Building and the Premises (excluding the improvements installed in the Premises by Tenant or by Landlord and paid for by Tenant), subject to delays arising from the collection of insurance proceeds, from Force Majeure events, or from obtaining any license, clearance or other authorization of any kind that shall be required under any applicable Environmental Requirements (as defined in Section 30) to enter into and restore the Premises because of the use, storage, handling, treatment, generation, release, disposal, removal or remediation of Hazardous Materials (as defined in Section 30) in, on or about the Building or the Premises (collectively referred to herein as "**Hazardous Materials Clearances**"); provided, however, that if Landlord's repair or restoration of the Building and Premises is not substantially complete as of the end of the Maximum Restoration Period or, if longer, the Restoration Period, Tenant may by written notice to Landlord delivered within 15 business days after the expiration of the Maximum Restoration Period or, if longer, the Restoration Period, elect to terminate this Lease, in which event Landlord shall be relieved of its obligation to make such repairs or restoration and this Lease shall terminate as of the date that is 75 days after the later of: (i) discovery of such damage or destruction, or (ii) the date all required Hazardous Materials Clearances are obtained, but Landlord shall retain any Rent paid and the right to any Rent payable by Tenant prior to such election by Landlord or Tenant.

Tenant, at its expense, shall promptly perform, subject to delays arising from the collection of insurance proceeds, from Force Majeure events or from obtaining any required Hazardous Material Clearances, all repairs or restoration not required to be done by Landlord and shall promptly re-enter the Premises and commence doing business in accordance with this Lease. Notwithstanding the foregoing,

Landlord may terminate this Lease if the Premises are damaged or destroyed during the last year of the Term and Landlord reasonably estimates that it will take more than 3 months to repair such damage or destruction, or if sufficient insurance proceeds (inclusive of any deductible amount) are not available for such restoration. Rent shall be abated from the date all required Hazardous Material Clearances are obtained until the Premises (and those portions of the Building necessary to provide access and Building system services to the Premises) are repaired and restored, in the proportion that the area of the Premises, if any, that is untenantable bears to the total area of the Premises. Such abatement shall be the sole remedy of Tenant, and except as provided in this Section 18, Tenant waives any right to terminate this Lease by reason of damage or casualty loss. As used in this Section 18, the term "**untenantable**" means reasonably incapable of being accessed or occupied for its intended use due to damage to or destruction of the Premises or the Building (or any portions thereof)

The provisions of this Lease, including this Section 18, constitute an express agreement between Landlord and Tenant with respect to any and all damage to, or destruction of, all or any part of the Premises, or any other portion of the Building, and any statute or regulation that is now or may hereafter be in effect shall have no application to this Lease or any damage or destruction to all or any part of the Premises or any other portion of the Building, the parties hereto expressly agreeing that this Section 18 sets forth their entire understanding and agreement with respect to such matters.

19. **Condemnation**. If the whole or any material part of the Premises or the Building is taken for any public or quasi-public use under governmental law, ordinance, or regulation, or by right of eminent domain, or by private purchase in lieu thereof (a "**Taking**" or "**Taken**"), and the Taking would either prevent or substantially interfere with Tenant's use of the Premises or substantially interfere with or impair Landlord's ownership or operation of the Building, then upon written notice by Landlord or Tenant to the other party, this Lease shall terminate and Rent shall be apportioned as of said date. If part of the Premises shall be Taken, and this Lease is not terminated as provided above, Landlord shall promptly restore the Premises and the Project as nearly as is commercially reasonable under the circumstances to their condition prior to such partial Taking and the rentable square footage of the Building, the rentable square footage of the Premises, Tenant's Share of Operating Expenses and the Rent payable hereunder during the unexpired Term shall be reduced to such extent as may be fair and reasonable under the circumstances. Upon any such Taking, Landlord shall be entitled to receive the entire price or award from any such Taking without any payment to Tenant, and Tenant hereby assigns to Landlord Tenant's interest, if any, in such award. Tenant shall have the right, to the extent that same shall not diminish Landlord's award, to make a separate claim against the condemning authority (but not Landlord) for such compensation as may be separately awarded or recoverable by Tenant for moving expenses and loss of or damage to Tenant's equipment and trade fixtures, if a separate award for such items is made to Tenant. Tenant hereby waives any and all rights it might otherwise have pursuant to any provision of state law to terminate this Lease upon a partial Taking of the Premises or the Project.

20. **Events of Default**. Each of the following events shall be a default ("**Default**") by Tenant under this Lease:

(a) **Payment Defaults**. Tenant shall fail to pay any installment of Rent or any other payment hereunder when due; provided, however, that Landlord will give Tenant notice and an opportunity to cure any failure to pay Rent within 3 business days of any such notice not more than once in any 12 month period and Tenant agrees that such notice shall be in lieu of and not in addition to, or shall be deemed to be, any notice required by law.

(b) **Insurance**. Any insurance required to be maintained by Tenant pursuant to this Lease shall be canceled or terminated or shall expire or shall be reduced or changed so as to no longer comply with the applicable requirements of this Lease, and such non-compliance is not rectified within 5 business days after written notice thereof from Landlord, or Landlord shall receive a notice of nonrenewal of any such insurance and Tenant shall fail to obtain replacement insurance at least 20 days before the expiration of

the current coverage, and such failure is not rectified within 5 business days after written notice thereof from Landlord.

(c) **Abandonment**. Tenant shall abandon the Premises without (i) the release of the Premises of all Hazardous Materials Clearances and free of any residual impact from the Tenant HazMat Operations, and (ii) complying with the provisions of Section 28.

(d) **Improper Transfer**. Tenant shall assign, sublease or otherwise transfer or attempt to transfer all or any portion of Tenant's interest in this Lease or the Premises except as expressly permitted herein, or Tenant's interest in this Lease shall be attached, executed upon, or otherwise judicially seized and such action is not released within 90 days of the action.

(e) **Liens**. Tenant shall fail to discharge or otherwise obtain the release or bonding of any lien placed upon the Premises in violation of this Lease by reason of any work performed by or on behalf of Tenant, within 30 days after any such lien is filed against the Premises and such failure is not rectified within 5 business days after written notice thereof from Landlord (for the avoidance of doubt, Landlord shall have the right to send such written notice to Tenant immediately after such lien is filed).

(f) **Insolvency Events**. Tenant or any guarantor or surety of Tenant's obligations hereunder shall: (A) make a general assignment for the benefit of creditors; (B) commence any case, proceeding or other action seeking to have an order for relief entered on its behalf as a debtor or to adjudicate it a bankrupt or insolvent, or seeking reorganization, arrangement, adjustment, liquidation, dissolution or composition of it or its debts or seeking appointment of a receiver, trustee, custodian or other similar official for it or for all or of any substantial part of its property (collectively a "**Proceeding for Relief**"); (C) become the subject of any Proceeding for Relief that is not dismissed within 90 days of its filing or entry; or (D) die or suffer a legal disability (if Tenant, guarantor, or surety is an individual) or be dissolved or otherwise fail to maintain its legal existence (if Tenant, guarantor or surety is a corporation, partnership or other entity).

(g) **Estoppel Certificate or Subordination Agreement.** Tenant fails to execute any document required from Tenant under Sections 23 or 27 within 5 business days after a second notice requesting such document.

(h) **Other Defaults**. Tenant shall fail to comply with any provision of this Lease other than those specifically referred to in this Section 20, and, except as otherwise expressly provided herein, such failure shall continue for a period of 15 days after written notice thereof from Landlord to Tenant.

Any notice given under Section 20(h) hereof shall: (i) specify the alleged default, (ii) demand that Tenant cure such default, (iii) be in lieu of, and not in addition to, or shall be deemed to be, any notice required under any provision of applicable law, and (iv) not be deemed a forfeiture or a termination of this Lease unless Landlord elects otherwise in such notice; provided that if the nature of Tenant's default pursuant to Section 20(h) is such that it cannot be cured by the payment of money and reasonably requires more than 15 days to cure, then Tenant shall not be deemed to be in default if Tenant commences such cure within said 15 day period and thereafter diligently prosecutes the same to completion; provided, however, that such cure shall be completed no later than 90 days from the date of Landlord's notice.

21. **Landlord's Remedies**.

(a) **Interest**. Upon a Default by Tenant hereunder, Landlord may, without waiving or releasing any obligation of Tenant hereunder, make such payment or perform such act. All sums so paid or incurred by Landlord, together with interest thereon, from the date such sums were paid or incurred, at the annual rate equal to 12% per annum or the highest rate permitted by law ("**Default Rate**"), whichever is less, shall

be payable to Landlord on demand as Additional Rent. Nothing herein shall be construed to create or impose a duty on Landlord to mitigate any damages resulting from Tenant's Default hereunder.

(b) **Late Payment Rent**. Late payment by Tenant to Landlord of Rent and other sums due will cause Landlord to incur costs not contemplated by this Lease, the exact amount of which will be extremely difficult and impracticable to ascertain. Such costs include, but are not limited to, processing and accounting charges and late charges that may be imposed on Landlord under any Mortgage covering the Premises. Therefore, if any installment of Rent due from Tenant is not received by Landlord within 5 days after the date such payment is due, Tenant shall pay to Landlord an additional sum of 6% of the overdue Rent as a late charge (provided that Tenant shall not be required to pay such late charge upon the first occurrence of a late payment by Tenant of Rent in any 12-consecutive month period). The parties agree that this late charge represents a fair and reasonable estimate of the costs Landlord will incur by reason of late payment by Tenant. In addition to the late charge, Rent not paid when due shall bear interest at the Default Rate from the 5th day after the date due until paid.

(c) **Re-Entry**. Upon a Default by Tenant under this Lease, Landlord shall have the right, immediately or at any time thereafter, without further notice to Tenant (unless otherwise provided herein), to enter the Premises, with legal process, without terminating this Lease or being guilty of trespass, and do any and all acts as Landlord may deem necessary, proper or convenient to cure such Default, for the account and at the expense of Tenant, any notice to quit or notice of Landlord's intention to re-enter being hereby expressly waived, and Tenant agrees to pay to Landlord as Additional Rent all damage and/or expense incurred by Landlord in so doing, including interest at the Default Rate, from the due date until the date payment is received by Landlord.

(d) **Termination**. Upon a Default by Tenant under this Lease, Landlord shall have the right to terminate this Lease and Tenant's right to possession of the Premises and, with legal process, take possession of the Premises and remove Tenant, any occupant and any property therefrom, using such force as may be necessary, without being guilty of trespass and without relinquishing any rights of Landlord against Tenant, any notice to quit, or notice of Landlord's intention to re-enter being hereby expressly waived. Landlord shall be entitled to recover damages from Tenant for all amounts covenanted to be paid during the remainder of the Term (except for the period of any holdover by Tenant, in which case the monthly rental rate stated at Section 8 herein shall apply), which may be accelerated by Landlord at its option, using a discount rate equal to the discount rate of the Federal Reserve Bank of Richmond, Virginia at the time of award plus 1%, together with (i) all expenses of any proceedings (including, but not limited to, the expenses set forth in Section 22(f) below) that may be necessary in order for Landlord to recover possession of the Premises, (ii) the expenses of the re-renting of the Premises (including, but not limited to, any commissions paid to any real estate agent, advertising expense and the costs of such repairs, replacements, or modifications that Tenant was obligated but failed to perform (including, but not limited to, the removal of any Special Structural Alterations), and (iii) interest computed at the Default Rate from the due date until paid; provided, however, that there shall be credited against the amount of such damages all amounts received by Landlord from such re-renting of the Premises, with any overage being refunded to Tenant. Landlord shall in no event be liable in any way whatsoever for failure to re-rent the Premises or, in the event that the Premises are re-rented, for failure to collect the rent thereof under such re-renting. Landlord shall have no obligation whatsoever to mitigate any damages resulting from a Default by Tenant under this Lease except for entering into and maintaining a listing of the Premises with a commercial real estate broker ("**Mitigation Requirement**"). On compliance with the Mitigation Requirement, Landlord shall be deemed to have fully satisfied its obligation to mitigate damages under this Lease and under any Legal Requirement in effect on the Commencement Date or at the time of Tenant's Default; and Tenant waives and releases, to the fullest extent permissible under applicable Legal Requirements, any right to assert in any action by Landlord to enforce the terms of this Lease, any defense, counterclaim, or rights of set-off or recoupment respecting the mitigation of damages by Landlord, unless and to the extent Landlord fails to comply with the Mitigation Requirement. No act or thing done by Landlord shall be deemed to be an acceptance of a surrender of the Premises, unless Landlord shall execute a written agreement of surrender

with Tenant. Tenant's liability hereunder shall not be terminated by the execution of a new lease of the Premises by Landlord, unless that new lease expressly so states. In the event Landlord does not exercise its option to accelerate the payment of amounts owed as provided hereinabove, then Tenant agrees to pay to Landlord, upon demand, the amount of damages herein provided after the amount of such damages for any month shall have been ascertained; provided, however, that any expenses incurred by Landlord shall be deemed to be a part of the damages for the month in which they were incurred. Separate actions may be maintained each month or at other times by Landlord against Tenant to recover the damages then due, without waiting until the end of the term of this Lease to determine the aggregate amount of such damages. Tenant hereby expressly waives any and all rights of redemption granted by or under any present or future laws in the event of Tenant being evicted or being dispossessed for any cause, or in the event of Landlord obtaining possession of the Premises by reason of the violation by Tenant of any of the covenants and conditions of this Lease.

(e) **Reserved**.

(f) **Expenses**. Tenant shall pay, as Additional Rent and immediately upon written demand from Landlord, all out-of-pocket costs and expenses incurred by Landlord, including, but not limited to, attorneys' fees, expert witness fees, paralegal fees, other litigation expenses (such as expenses for photocopying, electronic legal research, and deposition transcripts), and court costs in connection with or arising out of any Default by Tenant under this Lease, including, but not limited to, any action or proceeding brought by Landlord to enforce any obligation of Tenant under this Lease or the right of Landlord in or to the Premises. Such expenses are recoverable at all levels, including appeals and post-judgment actions or proceedings. The giving of a notice of Default by Landlord shall constitute part of an action or proceeding under this Lease, entitling Landlord to reimbursement of such fees and expenses, even if an action or proceeding is not commenced in a court of law and regardless of whether the Default is cured.

(g) **Suspension of Funding/Performance**. Upon a Default by Tenant and during the continuance thereof, Landlord shall have the right to suspend funding of any TI Allowance or the performance of the Base Building Work (and such suspension shall constitute a Tenant Delay).

(h) **Other Remedies**. In addition to the remedies set forth in this Section 21, Landlord, at its option, without further notice or demand to Tenant, shall have all other rights and remedies provided at law or in equity.

(i) **Limitation of Tenant's Damages**. Notwithstanding anything to the contrary set forth in this Lease or any default damages that may be permitted or authorized by applicable Legal Requirements, in no event shall damages recoverable from Tenant as a consequence of a Default under this Lease include any of the following: (i) consequential or punitive damages (except, however, as set forth in Section 8 (Holding Over); and (ii) leasing commissions and/or brokerage fees to the extent allocable to any period after the expiration date of the Base Term (as such Base Term may be extended by Tenant's exercise of an Extension Right before the occurrence of a Default).

22. **Assignment and Subletting**.

(a) **General Prohibition**. Without Landlord's prior written consent (except as provided in Section 22(b) below and subject to and on the conditions described in this Section 22, Tenant shall not, directly or indirectly, voluntarily or by operation of law, assign this Lease or sublease the Premises or any part thereof or mortgage, pledge, or hypothecate its leasehold interest or grant any concession or license within the Premises, and any attempt to do any of the foregoing shall be void and of no effect. If Tenant is a corporation, partnership or limited liability company, the shares or other ownership interests thereof that are not actively traded upon a stock exchange or in the over-the-counter market, a transfer or series of transfers whereby 25% or more of the issued and outstanding shares or other ownership interests of such

corporation are, or voting control is, transferred (but excepting transfers upon deaths of individual owners) from a person or persons or entity or entities that were owners thereof at time of execution of this Lease to persons or entities who were not owners of shares or other ownership interests of the corporation, partnership or limited liability company at time of execution of this Lease, shall be deemed an assignment of this Lease requiring the consent of Landlord as provided in this Section 22. Notwithstanding the foregoing, any public offering of shares or other ownership interest in Tenant shall not be deemed an assignment.

(b) **Transfer Notice**. If Tenant desires to assign, sublease, hypothecate or otherwise transfer this Lease or sublet the Premises other than pursuant to a Permitted Transfer (as defined below), then at least 10 business days, but not more than 45 business days, before the date Tenant desires the assignment or sublease to be effective ("**Transfer Date**"), Tenant shall give Landlord a notice ("**Transfer Notice**") containing such information about the proposed assignee or sublessee, including the proposed use of the Premises and any Hazardous Materials proposed to be used, stored handled, treated, generated in or released or disposed of from the Premises, the Transfer Date, any relationship between Tenant and the proposed assignee or sublessee, and all material terms and conditions of the proposed assignment or sublease, including a copy of any proposed assignment or sublease in its final form, and such other information as Landlord may deem reasonably necessary or appropriate to its consideration whether to grant its consent. Landlord shall, by giving written notice to Tenant within 15 business days after receipt of the Transfer Notice: (i) grant such consent, or (ii) refuse such consent, in its reasonable discretion as set forth in Section 22(d) below (provided that Landlord shall further have the right to review and approve or disapprove the proposed form of sublease prior to the effective date of any such subletting). Tenant shall pay to Landlord a fee equal to $2,500 in connection with its consideration of any Transfer Notice and/or its preparation or review of any consent documents. Such fee shall be escalated by an amount equal to 2.5% on each anniversary of the Lease Commencement Date.

(c) **Permitted Transfer**. Notwithstanding the foregoing provisions of this Section 22, Landlord's consent shall not be required (but Tenant shall provide at least 10 business days' prior written notice to Landlord unless such prior notice would violate any applicable Legal Requirements or any agreement to which Tenant or its counterparty are bound, in which even such notice shall be provided promptly after the transfer is consummated) to the following (each a "**Permitted Transfer**"): (i) an assignment of this Lease or a subletting of all or any portion of the Premises to any entity controlling, controlled by, or under common control with Tenant, provided that Landlord shall have the right to reasonably approve the form of any such sublease or assignment, or (ii) an assignment of this Lease or a subletting of any portion of the Premises to a corporation or other entity that is a successor-in-interest to Tenant, by way of merger, consolidation or corporate reorganization, or by the purchase of all or substantially all of the assets or the ownership interests of Tenant provided that (A) such merger or consolidation, or such acquisition or assumption, as the case may be, is for a good business purpose and not principally for the purpose of transferring this Lease without Landlord's consent, and (B) the net worth (as determined in accordance with GAAP of the assignee is not less than the net worth (as determined in accordance with GAAP) of Tenant as of the date of Tenant's most current quarterly or annual financial statements, and (C) such assignee shall agree in writing to assume all of the terms, covenants and conditions of this Lease arising after the effective date of the assignment.

(d) **Reasonableness Factors. Among other reasons, it shall be reasonable for Landlord to withhold its consent to a proposed subletting in any of these instances:** (i) the proposed subtenant is engaged in areas of scientific research or other business concerns that are controversial, in Landlord's reasonable judgment, or the subtenant's proposed use of the Premises will violate any applicable Legal Requirement, (ii) the proposed subtenant lacks the creditworthiness to support the financial obligations it would incur under the proposed sublease, (iii) in Landlord's reasonable judgment, the use of the Premises by the proposed subtenant would require unreasonably increased services by Landlord, (iv) Landlord has received from any other landlord to the proposed subtenant a negative report concerning such other

landlord's experience with the proposed subtenant, (v) Landlord has experienced previous defaults by or is in litigation with the proposed subtenant, and (vi) the sublease is prohibited by Landlord's lender.

(e) **Additional Conditions**. As a condition to any such assignment or subletting, whether or not Landlord's consent is required, Landlord may require:

(1) that any assignee or subtenant (other than an assignee or subtenant pursuant to a Permitted Transfer) agree, in writing at the time of such assignment or subletting, that if Landlord gives such party notice that Tenant is in default under this Lease, such party shall thereafter make all payments otherwise due Tenant directly to Landlord, which payments will be received by Landlord without any liability except to credit such payment against those due under this Lease, and any such subtenant (including a subtenant pursuant to a Permitted Transfer) shall agree to attorn to Landlord or its successors and assigns should this Lease be terminated for any reason; provided, however, in no event shall Landlord or its successors or assigns be obligated to accept such attornment; and

(2) A list of Hazardous Materials, certified by the proposed assignee or subtenant (other than an assignee or subtenant pursuant to a Permitted Transfer) to be true and correct, which the proposed assignee or sublessee intends to use, store, handle, treat, generate in or release or dispose of from the Premises, together with copies of all documents relating to such use, storage, handling, treatment, generation, release or disposal of Hazardous Materials by the proposed assignee or subtenant in the Premises or on the Project, prior to the proposed assignment or subletting, including, without limitation: permits; approvals; reports and correspondence; storage and management plans; plans relating to the installation of any storage tanks to be installed in or under the Project (provided, said installation of tanks shall only be permitted after Landlord has given its written consent to do so, which consent may be withheld in Landlord's sole and absolute discretion); and all closure plans or any other documents required by any and all federal, state and local Governmental Authorities for any storage tanks installed in, on or under the Project for the closure of any such tanks. Neither Tenant nor any such proposed assignee or subtenant is required, however, to provide Landlord with any portion(s) of the such documents containing information of a proprietary nature that, in and of themselves, do not contain a reference to any Hazardous Materials or hazardous activities.

(f) **No Release of Tenant, Sharing of Excess Rents**. Notwithstanding any assignment or subletting, Tenant and any guarantor or surety of Tenant's obligations under this Lease shall at all times remain fully and primarily responsible and liable for the payment of Rent and for compliance with all of Tenant's other obligations under this Lease. If the Rent due and payable by a sublessee or assignee (or a combination of the rental payable under such sublease or assignment (other than pursuant to a Permitted Transfer) plus any bonus or other consideration therefor or incident thereto in any form) exceeds the sum of the rental payable under this Lease (excluding however, any Rent payable under this Section and actual and reasonable brokerage fees, legal costs, tenant improvement allowances, and any design or construction fees directly related to and required pursuant to the terms of any such sublease or assignment) ("**Excess Rent**"), then Tenant shall be bound and obligated to pay Landlord as Additional Rent hereunder 50% of such Excess Rent within 10 business days following receipt thereof by Tenant. If Tenant shall sublet the Premises or any part thereof (other than pursuant to a Permitted Transfer), Tenant hereby immediately and irrevocably assigns to Landlord, as security for Tenant's obligations under this Lease, all rent from any such subletting, and Landlord as assignee and as attorney-in-fact for Tenant, or a receiver for Tenant appointed on Landlord's application, may collect such rent and apply it toward Tenant's obligations under this Lease; except that, until the occurrence of a Default, Tenant shall have the absolute right to collect such rent.

(g) **No Waiver**. The consent by Landlord to an assignment or subletting shall not relieve Tenant or any assignees of this Lease or any sublessees of the Premises from obtaining the consent of Landlord to any further assignment or subletting (other than a Permitted Transfer) nor shall it release Tenant or any assignee or sublessee of Tenant from full and primary liability under this Lease. The acceptance of Rent hereunder, or the acceptance of performance of any other term, covenant, or condition thereof, from any other person or entity shall not be deemed to be a waiver of any of the provisions of this Lease or a consent to any subletting, assignment or other transfer of the Premises.

(h) **Prior Conduct of Proposed Transferee.** Notwithstanding any other provision of this Section 22, if (i) the proposed assignee or sublessee of Tenant has been required by any prior landlord, lender or Governmental Authority to take remedial action in connection with Hazardous Materials contaminating a property, where the contamination resulted from such party's action or use of the property in question, (ii) the proposed assignee or sublessee is subject to an enforcement order issued by any Governmental Authority in connection with the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials (including, without limitation, any order related to the failure to make a required reporting to any Governmental Authority), or (iii) because of the existence of a pre-existing environmental condition in the vicinity of or underlying the Project, the risk that Landlord would be targeted as a responsible party in connection with the remediation of such pre-existing environmental condition would be materially increased or exacerbated by the proposed use of Hazardous Materials by a proposed assignee or sublessee, Landlord shall have the absolute right to refuse to consent to any assignment or subletting to any such party. The provisions of this Section 22(h) shall not apply to a Permitted Transfer.

(i) **Business Entity Occupancy**. Tenant shall have the right, upon 10 business days prior written notice to Landlord but without obtaining Landlord's prior written consent, to permit a business entity or individual that is a contractor, partner, collaborator, affiliate, subsidiary, client, customer, co-developer of Tenant (or an entity for whom Tenant is a subcontractor), or otherwise has a business relationship with Tenant, and is providing Tenant services in the course of Tenant's business operations at the Premises or is occupying the Premises in furtherance of such business relationship with Tenant (each, a "**Business Entity**" or collectively, "**Business Entities**"), to use not more than 20% of the rentable area of the Premises for any Permitted Use; provided, however, that (i) if Tenant receives compensation for such use in excess of that portion of the Rent attributable to such portion of the Premises for the period in question, Section 22(f) above shall apply, (ii) the entity remains a Business Entity for the entire duration of such use and the entity is not indicated on the Building directory or any signage on the Premises ("**Business Entity Occupancy**"), (iii) no new demising walls are constructed to accomplish the Business Entity Occupancy, (iv) Tenant shall be responsible for any and all Claims arising out of or in connection with the Business Entity Occupancy or any act or omission of any Business Entity, and Tenant shall indemnify, defend, hold and save Landlord harmless from and against any and all Claims arising out of or in connection with any Business Entity Occupancy or any act or omission of any Business Entity, (v) the provisions of this Section 22(i) are personal to REGENXBIO Inc. and its assignees and subtenants pursuant to a Permitted Transfer and are not assignable or transferable in whole or in part, and (vi) if Tenant and the Business Entity have entered into a written agreement governing the Business Entity Occupancy, Tenant shall provide a true and correct copy of such agreement to Landlord before the Business Entity Occupancy occurs. Such Business Entity Occupancy shall not be deemed a sublease or assignment hereunder, nor shall it vest in any such Business Entity any right, title, or interest in this Lease or the Premises nor shall it relieve, release, impair, or discharge any of Tenant's obligations hereunder. Tenant shall require that the Business Entity does not violate the terms of this Lease and any failure or breach of any term, covenant, condition, or other provision of this Lease by any Business Entity shall constitute a breach of such term, covenant, condition, or other provision of this Lease by Tenant and, if such failure or breach is not cured within any applicable notice and cure period under this Lease, shall constitute a Default by Tenant.

23. **Estoppel Certificate**. Tenant shall, within 10 business days of written notice from Landlord, execute, acknowledge and deliver a statement in writing in any form reasonably requested by a proposed lender or purchaser, (i) certifying that this Lease is unmodified and in full force and effect (or, if

modified, stating the nature of such modification and certifying that this Lease as so modified is in full force and effect) and the dates to which the rental and other charges are paid in advance, if any, (ii) acknowledging that to the actual knowledge of Tenant (without independent inquiry) there are not any uncured defaults on the part of Landlord hereunder, or specifying such defaults if any are known and claimed, and (iii) setting forth such further information with respect to the status of this Lease or the Premises as may be requested thereon. Any such statement may be relied upon by any prospective purchaser or encumbrancer of all or any portion of the real property of which the Premises are a part. Tenant's failure to deliver such statement within 5 business days after a second notice from Landlord shall, at the option of Landlord, be conclusive upon Tenant that this Lease is in full force and effect and without modification except as may be represented by Landlord in any certificate prepared by Landlord and delivered to Tenant for execution.

24. **Quiet Enjoyment**. So long as Tenant shall perform all of the covenants and agreements herein required to be performed by Tenant, within any applicable notice and cure period hereunder, Tenant shall, subject to the terms of this Lease, at all times during the Term, have peaceful and quiet enjoyment of the Premises without interference or hindrance by any person claiming by, through or under Landlord.

25. **Prorations**. All prorations required or permitted to be made hereunder shall be made on the basis of a 360-day year and 30-day months.

26. **Rules and Regulations**. Tenant shall, at all times during the Term and any extension thereof, comply with all reasonable and nondiscriminatory rules and regulations at any time or from time to time established by Landlord covering use of the Premises and the Project; provided, however, that such rules and regulations shall not (a) be binding upon Tenant until Tenant has received a written copy of such modifications, and (b) contradict any provision contained in this Lease nor materially increase Tenant's obligations or materially lessen its rights hereunder. The current rules and regulations are attached hereto as **Exhibit E**. If there is any conflict between said rules and regulations and other provisions of this Lease, the terms and provisions of this Lease shall control. Landlord shall not have any liability or obligation for the breach of any rules or regulations by other tenants in the Project and shall not enforce such rules and regulations in a discriminatory manner.

27. **Subordination and Lien Waiver**.

(a) **Subordination**. As of the Commencement Date, no Mortgage encumbers the Project. This Lease and Tenant's interest and rights hereunder shall be subject and subordinate at all times to the lien of any Mortgage hereafter created on or against the Project or any portion that includes the Premises, and all amendments, restatements, renewals, modifications, consolidations, refinancing, assignments and extensions thereof, without the necessity of any further instrument or act on the part of Tenant; provided, however that so long as there is no Default under any of the terms covenants, conditions, or agreements of this Lease, this Lease and all of the terms, provisions, and conditions of this Lease, shall remain in full force and effect, and neither this Lease, nor Tenant's rights hereunder nor Tenant's possession of the Premises will be disturbed during the Term by the Holder of any such Mortgage. Tenant agrees, at the election of the Holder of any such Mortgage, to attorn to any such Holder. Tenant agrees upon demand to execute, acknowledge and deliver such reasonable instruments, confirming such subordination, and such reasonable instruments of attornment as shall be requested by any such Holder, provided any such instruments contain appropriate non-disturbance provisions stating that so long as Tenant is not in Default under any of the terms, covenants, conditions, or agreements of this Lease, this Lease and all of the terms, provisions, and conditions of this Lease, shall remain in full force and effect, and neither this Lease, nor Tenant's rights hereunder nor Tenant's possession of the Premises will be disturbed during the Term. Notwithstanding the foregoing, any such Holder may at any time subordinate its Mortgage to this Lease, without Tenant's consent, by notice in writing to Tenant, and thereupon this Lease shall be deemed prior to such Mortgage without regard to their respective dates of execution, delivery or recording and in that event such Holder shall have the same rights with respect to this Lease as though this Lease had been

executed prior to the execution, delivery and recording of such Mortgage and had been assigned to such Holder. Landlord shall use its commercially reasonable efforts (but with no obligation to pay any out-of-pocket fees or charged imposed by the Holder unless Tenant agrees to pay them) to obtain from any Holder of a first lien Mortgage at any time during the Term covering any or all of the Project or the Premises a non-disturbance agreement on Holder's standard form (which form shall be conformed only to the extent necessary to comply with the requirements of this Section 27) in favor of Tenant stating that so long as Tenant is not in Default under any of the terms, covenants, conditions, or agreements of this Lease, this Lease and all of the terms, provisions, and conditions of this Lease, shall remain in full force and effect, and neither this Lease, nor Tenant's rights hereunder nor Tenant's possession of the Premises will be disturbed during the Term and recognizing Tenant's rights to any concessions (such as the Base Rent Abatement and/or leasehold improvement allowances) to which Tenant is entitled to under this Lease. The term "**Mortgage**" whenever used in this Lease shall be deemed to include any ground or underlying leases, mortgages, deeds of trust, security assignments, and any other liens or encumbrances, entered into or granted by Landlord (or its predecessor-in-interest) and that encumber any portion of the Project that includes the Premises, and any reference to the "**Holder**" of a Mortgage shall be deemed to include the lessor under any such ground or underlying lease, the mortgagee under any such mortgage, the beneficiary under any such deed of trust or any other lien or encumbrance, and the secured party under any such security assignment.

(b) **Lien Waiver**. At Tenant's request, Landlord shall waive its right to any and all statutory, common law, and other liens upon the property of Tenant in connection with any bona fide third party equipment financing pursuant to a lien waiver agreement in form and substance reasonably acceptable to Landlord. Such lien waiver shall be limited to specific items of equipment and shall not be in the form of a blanket lien waiver.

28. **Surrender**. Upon the expiration of the Term or earlier termination of Tenant's right of possession, Tenant shall surrender the Premises to Landlord in good order and condition (subject to Tenant's repair, restoration, and legal compliance obligations under this Lease), without any obligation to remove any Alterations or Installations (including, but not limited to, cabling and wiring) thereto, free of Hazardous Materials brought upon, kept, used, stored, handled, treated, generated in, or released or disposed of from, the Premises by any person other than a Landlord Party (collectively, "**Tenant HazMat Operations**") and released of all Hazardous Materials Clearances, broom clean, ordinary wear and tear, loss due to casualty and condemnation, and damage that Landlord is obligated to repair or restore, excepted. At least 3 months prior to the surrender of the Premises, Tenant shall deliver to Landlord a narrative description of the actions proposed (or required by any Governmental Authority) to be taken by Tenant in order to surrender the Premises (including any Installations permitted by Landlord to remain in the Premises) at the expiration or earlier termination of the Term, free from any residual impact from the Tenant HazMat Operations and otherwise released for unrestricted use and occupancy permitted prior to Tenant's occupancy under this Lease ("**Surrender Plan**"). Such Surrender Plan shall be accompanied by (x) a current listing of (i) all Hazardous Materials licenses and permits held by or on behalf of any Tenant Party with respect to the Premises, and (y) any closure plan required for any tanks installed or used in accordance with Section 30 hereof, and (ii) all Hazardous Materials used, stored, handled, treated, generated, released (to the extent known) or disposed of from the Premises, and shall be subject to the review and approval of Landlord's environmental consultant (which approval shall not be unreasonably withheld or delayed). In connection with the review and approval of the Surrender Plan, upon the reasonable request of Landlord, Tenant shall deliver to Landlord or its consultant such additional non-proprietary information concerning Tenant HazMat Operations as Landlord shall request. On or before such surrender, Tenant shall deliver to Landlord a report demonstrating that the approved Surrender Plan shall have been satisfactorily completed in accordance with the approved Surrender Plan and applicable Environmental Requirements, and Landlord shall have the right, subject to reimbursement at Tenant's expense as set forth below, to cause Landlord's environmental consultant to inspect the Premises and perform such additional procedures as may be deemed reasonably necessary to confirm that the Premises are, as of the effective date of such surrender or early termination of this Lease, free from any residual

impact from Tenant HazMat Operations. Tenant shall reimburse Landlord, as Additional Rent, for the actual out-of-pocket expense incurred by Landlord for Landlord's environmental consultant to review and approve the Surrender Plan and to visit the Premises and verify satisfactory completion of the same, which cost shall not exceed $5,000. Landlord shall have the unrestricted right to deliver such Surrender Plan and any report by Landlord's environmental consultant with respect to the surrender of the Premises to third parties.

If Tenant shall fail to prepare or submit a Surrender Plan approved by Landlord, or if Tenant shall fail to complete the approved Surrender Plan, or if such Surrender Plan, whether or not approved by Landlord, shall fail to adequately address any residual effect of Tenant HazMat Operations in, on or about the Premises, Landlord shall have the right to take such actions as Landlord may deem reasonable or appropriate to assure that the Premises and the Project are surrendered free from any residual impact from Tenant HazMat Operations, the cost of which actions shall be reimbursed by Tenant as Additional Rent, without regard to the limitation set forth in the first paragraph of this Section 28.

Upon the expiration of the Term or earlier termination of Tenant's right of possession, Tenant shall immediately return to Landlord all keys and/or access cards to parking, the Building, restrooms or all or any portion of the Premises furnished to or otherwise procured by Tenant. If any such access card or key is lost, Tenant shall pay to Landlord the cost of replacing such lost access card or key. Any Tenant's Property, Alterations and property not so removed by Tenant as permitted or required herein shall be deemed abandoned and may be stored, removed, and disposed of by Landlord at Tenant's expense, and Tenant waives all claims against Landlord for any damages resulting from Landlord's retention and/or disposition of such property. All obligations of Tenant hereunder not fully performed as of the termination of the Term, including the obligations of Tenant under Section 30 hereof, shall survive the expiration or earlier termination of the Term, including, without limitation, indemnity obligations, payment obligations with respect to Rent and obligations concerning the condition and repair of the Premises.

29. **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 SOUNDING 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.

30. **Environmental Requirements**.

(a) **Prohibition/Compliance/Indemnity**. Tenant shall not cause or permit any Hazardous Materials (as hereinafter defined) to be brought upon, kept, used, stored, handled, treated, generated in or about, or released or disposed of from, the Premises or the Project in violation of applicable Environmental Requirements by Tenant or any Tenant Party. If Tenant breaches the obligation stated in the preceding sentence, or if the presence of Hazardous Materials in the Premises during the Term or any holding over results in contamination of the Premises, the Project or any adjacent property or if contamination of the Premises, the Project or any adjacent property by Hazardous Materials brought into, kept, used, stored, handled, treated, generated in or about, or released or disposed of from, the Premises by anyone other than Landlord and Landlord's employees, agents and contractors otherwise occurs during the Term or any holding over, Tenant hereby indemnifies and shall defend (as applicable) and hold Landlord, its officers, directors, employees, agents and contractors harmless from any and all actions (including, without limitation, remedial or enforcement actions of any kind, administrative or judicial proceedings, and orders or judgments arising out of or resulting therefrom), costs, claims, damages (including, without limitation, punitive damages and damages based upon diminution in value of the Premises or the Project, or the loss of, or restriction on, use of the Premises or any portion of the Project), expenses (including, without limitation, attorneys', consultants' and experts' fees, court costs and amounts paid in settlement of any claims or actions), fines, forfeitures or other civil, administrative or criminal penalties, injunctive or other relief (whether or not based upon personal injury, property damage, or contamination of, or adverse effects upon, the environment, water tables or natural resources), liabilities or losses (collectively, "**Environmental**

Claims") that arise during or after the Term as a result of such contamination; provided, however, that Tenant shall have no indemnification, remediation, or other obligation or responsibility under this Section 30 for any contamination or Environmental Claim if Tenant proves by a preponderance of the evidence that such contamination or Environmental Claim arises from any Hazardous Materials brought into, kept, used, stored, handled, treated, generated in or about, or released or disposed of from the Premises by Landlord, its employees or contractors, or another tenant unrelated or unaffiliated with Tenant or that existed in the Premises as of the Commencement Date and were not brought into, kept, used, stored, handled, treated, generated in or about, or released or disposed of from the Premises by Tenant, any Tenant Party, or any subtenant of Tenant or other occupant of the Premises. This indemnification of Landlord by Tenant includes, without limitation, costs incurred in connection with any investigation of site conditions or any cleanup, treatment, remedial, removal, or restoration work required by any federal, state or local Governmental Authority because of Hazardous Materials present in the air, soil or ground water above, on, or under the Premises. Without limiting the foregoing, if the presence of any Hazardous Materials on the Premises, the Building, the Project or any adjacent property caused or permitted by Tenant or any Tenant Party results in any contamination of the Premises, the Building, the Project or any adjacent property in violation of any applicable Environmental Requirements, Tenant shall promptly take all actions at its sole expense and in accordance with applicable Environmental Requirements as are necessary to return the Premises, the Building, the Project or any adjacent property to the condition existing prior to the time of such contamination, provided that Landlord's approval of such action shall first be obtained, which approval shall not unreasonably be withheld or delayed so long as such actions would not potentially have any material adverse long-term or short-term effect on the future use of the Premises, the Building, or the Project, as such uses were permitted prior to the Tenant's occupancy under this Lease.

(b) **Business**. Landlord acknowledges that it is not the intent of this Section 30 to prohibit Tenant from using the Premises for the Permitted Use. Tenant may operate its business according to prudent industry practices so long as the use or presence of Hazardous Materials is strictly and properly monitored according to all then applicable Environmental Requirements. As a material inducement to Landlord to allow Tenant to use Hazardous Materials in connection with its business, Tenant agrees to deliver to Landlord prior to the Commencement Date a list identifying each type of Hazardous Materials to be brought upon, kept, used, stored, handled, treated, generated on, or released (to the extent known) or disposed of from, the Premises and setting forth any and all governmental approvals or permits required in connection with the presence, use, storage, handling, treatment, generation, release or disposal of such Hazardous Materials on or from the Premises ("**Hazardous Materials List**"). Tenant shall deliver to Landlord an updated Hazardous Materials List once a year but shall also deliver an updated list promptly after any new Hazardous Material is brought onto, kept, used, stored, handled, treated, generated on, or released (to the extent known) or disposed of from, the Premises. Tenant shall deliver to Landlord true and correct copies of the following documents ("**Haz Mat Documents**") relating to the use, storage, handling, treatment, generation, release, or disposal of Hazardous Materials prior to the Commencement Date, or if unavailable at that time, concurrent with the receipt from or submission by Tenant to a Governmental Authority: (i) permits, plans, and reports required under any applicable Environmental Requirements, including, but not limited to, plans relating to the installation, use, or closure of any storage tanks on or under the Project to be installed or used by Tenant (provided, said installation or use of tanks shall only be permitted after Landlord has given Tenant its written consent to do so, which consent may be withheld in Landlord's sole and absolute discretion); (ii) notices of violation of any applicable Environmental Requirements; and (iii) material correspondence (including approvals from Governmental Authorities) related to clauses (i) and (ii) above. Tenant is not required, however, to provide Landlord with any portion(s) of the Haz Mat Documents containing information of a proprietary nature that, in and of themselves, do not contain a reference to any Hazardous Materials or hazardous activities. It is not the intent of this Section to provide Landlord with information that could be detrimental to Tenant's business should such information become possessed by Tenant's competitors.

(c) **Tenant Representation and Warranty**. Tenant hereby represents and warrants to Landlord that (i) neither Tenant nor any of its legal predecessors has been required by any prior landlord,

lender, or Governmental Authority at any time to take remedial action in connection with Hazardous Materials contaminating a property, which contamination was permitted by Tenant of such predecessor or resulted from Tenant's or such predecessor's action or use of the property in question, and (ii) Tenant is not subject to any enforcement order issued by any Governmental Authority in connection with the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials (including, without limitation, any order related to the failure to make a required reporting to any Governmental Authority). If Landlord determines that this representation and warranty was not true as of the date of this lease, Landlord shall have the right to terminate this Lease in Landlord's sole and absolute discretion.

(d) **Testing**. Landlord shall have access to, and a right to perform inspections and tests of, the Premises and the Project to determine Tenant's compliance with Environmental Requirements, its obligations under this Section 30, or the environmental condition of the Premises and the Project. In connection with such testing, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such non-proprietary information concerning the use of Hazardous Materials in or about the Premises by Tenant or any Tenant Party. Access shall be granted to Landlord upon Landlord's prior notice to Tenant and at such times so as to minimize, so far as may be reasonable under the circumstances, any disturbance to Tenant's operations. Such inspections and tests shall be conducted at Landlord's expense, unless such inspections or tests are conducted pursuant to Section 21 hereof or reveal that Tenant has not complied with any Environmental Requirement, in which case Tenant shall reimburse Landlord as Additional Rent for the reasonable cost of such inspection and tests within 30 days after request therefor. Tenant shall, at its sole cost and expense, promptly and satisfactorily remediate any environmental conditions identified by such testing in accordance with all Environmental Requirements. Landlord's receipt of or satisfaction with any environmental assessment in no way waives any rights that Landlord may have against Tenant.

(e) **Underground Tanks**. Under no circumstances whatsoever will Tenant have the right to install any underground storage tank on or about the Premises or the Project. If underground or other storage tanks storing Hazardous Materials located on the Premises or the Project before the Commencement Date are used by Tenant, Tenant shall install, use, monitor, operate, maintain, upgrade and manage such storage tanks, maintain appropriate records, obtain and maintain appropriate insurance, implement reporting procedures, properly close any underground storage tanks if required by and in accordance with all applicable Environmental Requirements, and take or cause to be taken all other actions necessary or required under any applicable Environmental Requirements, as such now exists or may hereafter be adopted or amended in connection with the installation, use, maintenance, management, operation, upgrading and closure of such storage tanks.

(f) **Control Areas**. Tenant shall be allowed to utilize up to its pro rata share of the Hazardous Materials inventory within any control area or zone (located within the Premises), as designated from time to time by the applicable building code or other Legal Requirement, for Hazardous Materials use or storage. As used in the preceding sentence, Tenant's pro rata share of any control area or zone located within the Premises shall be determined based on the rentable square footage that Tenant leases within the applicable control area or zone. For purposes of example only, if a control area or zone contains 10,000 rentable square feet and 2,000 rentable square feet of a tenant's premises are located within such control area or zone (while such premises as a whole contains 5,000 rentable square feet), the applicable tenant's pro rata share of such control area or zone would be 20%.

(g) **Tenant's Obligations**. Tenant's obligations under this Section 30 shall survive the expiration or earlier termination of this Lease for the applicable statute of limitations period under the relevant Environmental Requirement. During any period of time after the expiration or earlier termination of this Lease required by Tenant or Landlord to complete the removal from the Premises of any Hazardous Materials (including, without limitation, the release and termination of any licenses or permits restricting the use of the Premises and the completion of the approved Surrender Plan), Tenant shall continue to pay the full Rent (prorated daily) in accordance with this Lease for any portion of the Premises not relet by Landlord because of the presence of such Hazardous Materials on such portion of the Premises.

(h) **Definitions**. As used herein, (i) the term "**Environmental Requirements**" means all applicable present and future statutes, regulations, ordinances, rules, codes, judgments, orders or other similar enactments of any Governmental Authority regulating or relating to environmental conditions (including health and safety as related to environmental conditions) on, under, or about the Premises or the Project, or the environment, including without limitation, the following: the Comprehensive Environmental Response, Compensation and Liability Act; the Resource Conservation and Recovery Act; and all state and local counterparts thereto, and any regulations or policies promulgated or issued thereunder, and (ii) the term "**Hazardous Materials**" means and includes any substance, material, waste, pollutant, or contaminant listed or defined as hazardous or toxic, or regulated by reason of its impact or potential adverse impact on humans, animals and/or the environment under any Environmental Requirements, asbestos and petroleum, including crude oil or any fraction thereof, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). As defined in Environmental Requirements, Tenant is and shall be deemed to be the "**operator**" of Tenant's "**facility**" and the "**owner**" of all Hazardous Materials brought on the Premises by Tenant or any Tenant Party, and the wastes, by-products, or residues generated, resulting, or produced therefrom.

(i) **No Hazardous Materials as of Lease Commencement Date**. As of the Lease Commencement Date, Landlord represents and warrant to Tenant that, except as set forth in any environmental report delivered by or on behalf of Landlord to Tenant before the Commencement Date, to the actual then current knowledge of Lawrence J. Diamond, Co-Chief Operating Officer of Tenant's affiliate, Alexandria Real Estate Equities, Inc., the Premises and the Loading Docks are free of any Hazardous Materials. Mr. Diamond shall have no personal liability whatsoever under this Lease or otherwise. If required by the applicable Governmental Authority, Landlord shall at no expense to Tenant remove or remediate in accordance with applicable Environmental Requirements any contamination of the Premises and/or the Loading Docks existing as of the Lease Commencement Date in violation of any applicable Environmental Requirements.

31. **Tenant's Remedies/Limitation of Liability**. Landlord shall not be in default hereunder unless Landlord fails to perform any of its obligations hereunder within 30 days after written notice from Tenant (or in case of an emergency involving imminent injury or damage, promptly after telephonic notice to Tenant's principal contact with Landlord), specifying such failure (unless such performance will, due to the nature of the obligation, require a longer period of time, then after such period of time as is reasonably necessary). Upon any default by Landlord in a non-emergency situation, Tenant shall give notice by registered or certified mail to any Holder of a Mortgage, and Tenant shall offer such Holder and/or landlord a reasonable opportunity to cure the default, including time to obtain possession of the Project by power of sale or a judicial action if such should prove necessary to effect a cure; provided Landlord shall have furnished to Tenant in writing the names and addresses of all such persons who are to receive such notices. All obligations of Landlord hereunder shall be construed as covenants, not conditions; and, except as may be otherwise expressly provided in this Lease, Tenant may not terminate this Lease for breach of Landlord's obligations hereunder.

Notwithstanding the foregoing, if any claimed Landlord default hereunder will immediately, materially, and adversely affect Tenant's ability to normally conduct its business in any material portion of the Premises (a "**Material Landlord Default**"), Tenant shall, as soon as reasonably possible, but in any event within 5 business days of obtaining actual knowledge of such claimed Material Landlord Default, give Landlord written notice of such claim and telephonic notice to Tenant's principal contact with Landlord. Landlord shall then have 2 business days to commence cure of such claimed Material Landlord Default and shall diligently prosecute such cure to completion. If such claimed Material Landlord Default is not a default by Landlord hereunder, or if Tenant failed to give Landlord the notice required hereunder within 5 business days of obtaining actual knowledge of such claimed Material Landlord Default, Landlord shall be entitled to recover from Tenant, as Additional Rent, any costs incurred by Landlord in connection with such cure in excess of the costs, if any, that Landlord would otherwise have been liable to pay hereunder. If Landlord fails to commence cure of any claimed Material Landlord Default as provided above, Tenant may

commence and prosecute such cure to completion, and shall be entitled to recover the costs of such cure (but not any consequential or other damages) from Landlord, to the extent of Landlord's obligation to cure such claimed Material Landlord Default hereunder, subject to the limitations set forth in the immediately preceding sentence of this paragraph and the other provisions of this Lease.

All obligations of Landlord under this Lease will be binding upon Landlord only during the period of its ownership of the Premises and not thereafter. The term "**Landlord**" in this Lease shall mean only the owner for the time being of the Premises. Upon the transfer by such owner of its interest in the Premises, such owner shall thereupon be released and discharged from all obligations of Landlord thereafter accruing, but such obligations shall be binding during the Term upon each new owner for the duration of such owner's ownership.

32. **Inspection and Access**. Landlord and its agents, representatives, and contractors may enter the Premises to inspect the Premises and to make such repairs as may be required or permitted pursuant to this Lease and for any other purpose specified in this Section. Landlord and Landlord's representatives may enter the Premises during normal business hours on not less than 48 hours advance written notice (except in the case of emergencies or to provide janitorial services in which case no such notice shall be required and such entry may be at any time) for the purpose of effecting any such repairs, inspecting the Premises, or showing the Premises to prospective purchasers and, during the last year of the Term, to prospective tenants. Landlord may erect a suitable sign on or about the Building (a) stating the Premises are available to let, which sign may be erected only during the last year of the Term, or (b) stating that the Project is available for sale, which sign may be erected at any time during the Term. Landlord may grant easements, make public dedications, designate Common Areas and create restrictions on or about the Premises, provided that no such easement, dedication, designation or restriction materially, adversely affects Tenant's access to, use, or occupancy of the Premises for the Permitted Use or Tenant's parking rights under Section 10. At Landlord's request, Tenant shall execute such reasonable instruments as may be necessary for such easements, dedications or restrictions. Tenant shall at all times, except in the case of emergencies or the provision of janitorial services, have the right to escort Landlord or its agents, representatives, contractors or guests while the same are in the Premises, provided such escort does not materially and adversely affect Landlord's access rights hereunder. Landlord shall use all commercially reasonable efforts to conduct such activities in a manner that minimizes inconvenience, annoyance, or disturbance to Tenant or Tenant's access to, use, or occupancy of the Premises for the Permitted Use and Tenant's parking rights under Section 10.

33. **Security**. Tenant acknowledges and agrees that security devices and services, if any, while intended to deter crime may not in given instances prevent theft or other criminal acts and that Landlord is not providing any security services with respect to the Premises. Tenant agrees that Landlord shall not be liable to Tenant for, and Tenant waives any claim against Landlord with respect to, any loss by theft or any other damage suffered or incurred by Tenant in connection with any unauthorized entry into the Premises or any other breach of security with respect to the Premises. Tenant shall be solely responsible for the personal safety of Tenant's officers, employees, agents, contractors, guests and invitees while any such person is in, on or about the Premises and/or the Project. Tenant shall at Tenant's cost obtain insurance coverage to the extent Tenant desires protection against such criminal acts. Throughout the Term, Landlord shall provide Tenant, without charge, with a sufficient number of working access cards or devices for the elevator and Building access control systems, as reasonably determined and requested by Tenant from time to time to accommodate Tenant's employees and contractors regularly working at the Premises, plus visitors to, and employees and contractors occasionally working at, the Premises.

(a) **Tenant's Security Devices**. Tenant shall have the right, at its sole cost and expense, to install security devices within and at the entrances to the Premises, including devices such as electronic access control, closed circuit television cameras, and turnstiles.

(b) **Elevator Security**. The passenger elevators serving the Premises shall have programmable access control to lock-off each floor using a proximity or insert type card reader.

(c) **Access**. Landlord shall provide to Tenant access to the Building 24 hours each day of the year by means of an electronic card or key system. The basic components of the Building's access system shall include proximity or insert type cards access control points at the Building entry lobby and elevators, Such access shall be subject to such reasonable and non-discriminatory regulations or adjustment as Landlord may deemed appropriate from time to time.

(d) **Guard Desk**. For so long as Tenant leases all of the office/laboratory space in the Building, Tenant shall have the right, at its sole cost and expense, to install a guard desk/station in the common lobby atrium on the main level of the Building. The location, size, appearance, and configuration of the guard desk shall be reasonably acceptable to Landlord and Tenant.

34. **Force Majeure**. Neither Landlord nor Tenant shall be responsible or liable for delays in the performance of its respective obligations hereunder when caused by, related to, or arising out of acts of God, strikes, lockouts, or other labor disputes, embargoes, quarantines, weather, national, regional, or local disasters, calamities, or catastrophes, inability to obtain labor or materials (or reasonable substitutes therefor) at reasonable costs or failure of, or inability to obtain, utilities necessary for performance, governmental restrictions, orders, limitations, regulations, or controls, national emergencies, delay in issuance or revocation of permits, enemy or hostile governmental action, terrorism, insurrection, riots, civil disturbance or commotion, fire or other casualty, and other causes or events beyond the reasonable control of Landlord ("**Force Majeure**"); provided, however, that in no event shall Force Majeure excuse the monetary obligations of Landlord or Tenant under this Lease.

35. **Brokers**. Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, "**Broker**") in connection with this transaction and that no Broker brought about this transaction, other than Tenant's broker, Cresa Global Inc. d/b/a Cresa ("**Cresa**"), and Landlord's broker, Jones Lang LaSalle ("**JLL**"). Cresa shall be paid by Landlord pursuant to a separate agreement between Landlord and Cresa. JLL shall be paid by Landlord pursuant to a separate agreement between Landlord and JLL. Landlord and Tenant each hereby agree to indemnify, defend, and hold the other harmless from and against any claims by any Broker, other than Cresa and JLL, claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this leasing transaction.

36. **Limitation on Landlord's Liability.** NOTWITHSTANDING ANYTHING SET FORTH HEREIN OR IN ANY OTHER AGREEMENT BETWEEN LANDLORD AND TENANT TO THE CONTRARY: (A) LANDLORD SHALL NOT BE LIABLE TO TENANT OR ANY OTHER PERSON FOR (AND TENANT AND EACH SUCH OTHER PERSON ASSUME ALL RISK OF) LOSS, DAMAGE OR INJURY, WHETHER ACTUAL OR CONSEQUENTIAL TO: TENANT'S PERSONAL PROPERTY OF EVERY KIND AND DESCRIPTION, INCLUDING, WITHOUT LIMITATION TRADE FIXTURES, EQUIPMENT, INVENTORY, SCIENTIFIC RESEARCH, SCIENTIFIC EXPERIMENTS, LABORATORY ANIMALS, PRODUCT, SPECIMENS, SAMPLES, AND/OR SCIENTIFIC, BUSINESS, ACCOUNTING AND OTHER RECORDS OF EVERY KIND AND DESCRIPTION KEPT AT THE PREMISES AND ANY AND ALL INCOME DERIVED OR DERIVABLE THEREFROM; (B) THERE SHALL BE NO PERSONAL RECOURSE TO LANDLORD FOR ANY ACT OR OCCURRENCE IN, ON OR ABOUT THE PREMISES OR ARISING IN ANY WAY UNDER THIS LEASE OR ANY OTHER AGREEMENT BETWEEN LANDLORD AND TENANT WITH RESPECT TO THE SUBJECT MATTER HEREOF AND ANY LIABILITY OF LANDLORD HEREUNDER SHALL BE STRICTLY LIMITED SOLELY TO LANDLORD'S INTEREST IN THE PROJECT OR ANY PROCEEDS FROM SALE OR CONDEMNATION THEREOF AND ANY INSURANCE PROCEEDS PAYABLE IN RESPECT OF LANDLORD'S INTEREST IN THE PROJECT OR IN CONNECTION WITH ANY SUCH LOSS; AND (C) IN NO EVENT SHALL ANY PERSONAL LIABILITY BE ASSERTED AGAINST ANY OF LANDLORD'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR CONTRACTORS.

UNDER NO CIRCUMSTANCES SHALL LANDLORD OR ANY OF LANDLORD'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR CONTRACTORS BE LIABLE FOR INJURY TO TENANT'S BUSINESS OR FOR ANY LOSS OF INCOME OR PROFIT THEREFROM.

37. **Severability**. If any clause or provision of this Lease is illegal, invalid or unenforceable under present or future laws, then and in that event, it is the intention of the parties hereto that the remainder of this Lease shall not be affected thereby. It is also the intention of the parties to this Lease that in lieu of each clause or provision of this Lease that is illegal, invalid or unenforceable, there be added, as a part of this Lease, a clause or provision as similar in effect to such illegal, invalid or unenforceable clause or provision as shall be legal, valid and enforceable. This Lease, including the exhibits attached hereto, constitutes the entire agreement between Landlord and Tenant pertaining to the subject matter hereof and supersedes all prior agreements, understandings, letters of intent, negotiations, and discussions, whether oral or written, of the parties, and there are no warranties, representations, or other agreements, express or implied, made to either party by the other party in connection with the subject matter hereof except as specifically set forth herein or in the documents delivered pursuant hereto or in connection herewith.

38. **Signs; Exterior Appearance**. Except as provided in this Section 38, Tenant shall not, without the prior written consent of Landlord, which may be granted or withheld in Landlord's sole discretion: (i) attach any awnings, exterior lights, decorations, balloons, flags, pennants, banners, painting or other projection to any outside wall of the Project, (ii) use any curtains, blinds, shades or screens other than Landlord's standard window coverings as specified in the Basis of Design Report (as defined in **Exhibit C-1** attached hereto), (iii) coat or otherwise sunscreen the interior or exterior of any windows, (iv) place any bottles, parcels, or other articles on the window sills, (v) place any equipment, furniture or other items of personal property on any exterior balcony, or (vi) paint, affix or exhibit on any part of the Premises or the Project any signs, notices, window or door lettering, placards, decorations, or advertising media of any type that can be viewed from the exterior of the Premises. Interior signs on entrance doors to the Premises and the Building directory tablet shall be inscribed, painted or affixed for Tenant by Landlord at the sole but reasonable cost and expense of Tenant, and shall be of a size, color and type reasonably acceptable to Landlord. Nothing may be placed on the exterior of corridor walls or corridor doors other than Landlord's standard lettering. The Building directory tablet shall be provided exclusively for the display of the name and location of tenants.

(a) **Identification Signage**. Tenant shall have the right, at its sole option, cost, and expense and in compliance with all applicable Legal Requirements, to install and affix to the exterior of the Building not more than 2 mounted, illuminated signs as desired by Tenant and permitted by applicable Legal Requirements (and related electrical connections and equipment) bearing the then-current name and the corporate logo of Tenant or any assignee of this Lease or sublessee of all or any portion of the Premises pursuant to a Permitted Transfer ("**Identification Signage**"). Such right shall be personal to REGENXBIO Inc. and any assignee of this Lease or sublessee of all or any portion of the Premises pursuant to a Permitted Transfer. Landlord shall have the right to approve the placement on the wall, size, and design of the Identification Signage, which approval shall not be unreasonably withheld, delayed, or conditioned. Landlord hereby approves the location of the Identification Signage set forth on **Exhibit G** attached hereto. Tenant shall, at its sole cost and expense, maintain the Identification Signage in good order and repair consistent with the Maintenance Standard and have the right to replace, renovate, and/or update the Identification Signage from time to time, subject to Landlord's approval, which approval shall not be unreasonably withheld, delayed, or conditioned. On the expiration or earlier termination of the Term, Tenant shall, at its sole cost and expense, (i) remove the Identification Signage in a good and workmanlike manner and in compliance with all applicable Legal Requirements, and (ii) repair any damage to the façade or appearance of the Building caused by installation, replacement, renovation, updating and/or removal of the Identification Signage.

(b) **Monument Signage**. Landlord shall, in compliance with all applicable Legal Requirements, install (before the Rent Commencement Date) and thereafter throughout the Term, maintain

in good condition and repair, as part of the Operating Expenses, Tenant's name on the monument sign serving the Building. Landlord shall have the right to approve the placement on such monument sign, size, and design of such signage, which approval shall not be unreasonably withheld, delayed, or conditioned. Tenant's rights under this paragraph to have signage on such monument sign are non-exclusive, it being understood and agreed that Landlord may have heretofore granted or may hereafter grant rights to signage on such monument sign to other tenants of the Building, and the area occupied by Tenant's name on such monument shall not exceed Tenant's proportionate share of the monument (which share shall be equal to Tenant's Share as to any monument sign serving the Building and Tenant's Project Share as to any monument sign serving the Project).

(c) **Plaque Signage**. Plaque signage will be located adjacent to the main entrance to the Building. Landlord shall install, before the Rent Commencement Date, and thereafter throughout the Term, maintain in good condition and repair, as part of the Operating Expenses, Tenant's name on the plaque. Tenant shall have the right to approve the placement on the wall, size, and design of such plaque signage, which approval shall not be unreasonably withheld, delayed, or conditioned. Tenant's rights under this paragraph are non-exclusive and the percentage of the total plaque area occupied by Tenant's name on such plaque shall be approximately Tenant's Share.

39. **Right of First Negotiation**.

(a) **General**. If at any time any Available Space (as defined below) in the Building becomes available for lease and Landlord receives a bona fide proposal, request for proposal, term sheet, or other comparable expression of interest to lease any Available Space, Landlord shall give notice of such availability to Tenant ("**Availability Notice**"). The Availability Notice shall set forth market terms, conditions, and concessions for the lease of the Available Space ("**Available Space Market Terms**"). Tenant shall respond to the Availability Notice within 10 business days after receipt thereof, which response shall state that Tenant (1) declines to lease the Available Space, (2) agrees to lease the Available Space on the terms set forth in the Availability Notice (including the Available Space Market Terms), in which event Landlord and Tenant shall within 15 days thereafter execute and deliver an amendment to this Lease or a lease agreement for the Available Space, or (3) desires to lease the Available Space but in good faith disagrees with the proposed Available Space Market Terms, in which event Landlord and Tenant shall, for a period of up to 15 days thereafter, negotiate in good faith for Tenant's lease of the Available Space on mutually acceptable Available Space Market Terms ("**Negotiation Right**"). If Landlord and Tenant are unable to agree on the Available Space Market Terms within such 15 day period after negotiating in good faith, the parties shall proceed to arbitration as set forth below. For purposes of this Section, "**Available Space**" shall mean any space on the first floor (if Tenant does not exercise its option to lease the Hold Space (as defined in Section 45)) and second floor of the Building that is not occupied by a tenant or that is occupied by an existing tenant whose lease is expiring within 6 months or less and such tenant does not wish to renew (whether or not such tenant has a right to renew) its occupancy of such space. In no event shall the Available Space include any space on the first floor for the On Site Food Service (unless Landlord is not then operating and does not intend to operate the On Site Food Service) or Landlord's management office. Provided that no right to expand is exercised by any tenant with superior rights (as set forth in **Exhibit I**), Tenant shall be entitled to lease the Available Space upon the terms and conditions, if any, agreed to by Landlord and Tenant.

(i) **Available Space Market Terms Proposal**. Within 10 days after the expiration of such 15 day period, each party shall deliver to the other a proposal containing the Available Space Market Terms that the submitting party believes to be correct (each, an "**Available Space Market Terms Proposal**"). If either party fails to timely submit an Available Space Market Terms Proposal, and such failure is not remedied within 3 business days after written notice thereof to such party, the other party's submitted Available Space Market Terms Proposal shall be deemed the Available Space Market Terms. If both parties submit Available Space Market Terms Proposals, then Landlord and Tenant shall meet within 7 days after delivery of the last Available Space Market Terms Proposal and make a good faith attempt to

mutually appoint a single Arbitrator (as defined below) to determine the Available Space Market Terms. If Landlord and Tenant are unable to agree upon a single Arbitrator, then each shall, by written notice delivered to the other within 10 days after the meeting, select an Arbitrator. If either party fails to timely give notice of its selection for an Arbitrator, and such failure is not remedied within 3 business days after written notice thereof to such party, the other party's submitted Available Space Market Terms Proposal shall be deemed the Available Space Market Terms. The 2 Arbitrators so appointed shall, within 5 business days after their appointment, appoint a third Arbitrator. If the 2 Arbitrators so selected cannot agree on the selection of the third Arbitrator within the time above specified, then either party, on behalf of both parties, may request such appointment of such third Arbitrator by application to any state court of general jurisdiction in the jurisdiction in which the Premises are located, upon 10 days prior written notice to the other party of such intent.

(ii) **Decision**. The decision of the Arbitrator(s) shall be made within 30 days after the appointment of a single Arbitrator or the third Arbitrator, as applicable. The decision of the Arbitrator(s) shall be limited solely as to which of the Available Space Market Terms Proposals submitted by the parties is closest to the actual Available Space Market Terms in such Arbitrator(s)' good faith professional judgment. The decision of the single Arbitrator, or the majority or unanimity of the 3 Arbitrator panel, as applicable, shall be final and binding upon the parties. Each party shall pay the fees and expenses of the Arbitrator appointed by or on behalf of such party (if applicable) and the fees and expenses of the agreed-upon single Arbitrator or the third Arbitrator, as applicable, shall be borne equally by both parties. Landlord and Tenant shall then execute and deliver a mutually acceptable amendment recognizing the Available Space Market Terms, along with the other terms set forth in the Availability Notice, for the Availability Space.

(iii) **Definition of Arbitrator**. An "**Arbitrator**" shall be any person appointed by or on behalf of either party or appointed pursuant to the provisions hereof and: (A) shall be (1) a member of the American Institute of Real Estate Appraisers with not less than 10 years of experience in the appraisal of improved office and high tech industrial real estate in the Rockville/Gaithersburg, Maryland market area, or (2) a licensed commercial real estate broker with not less than 15 years' experience representing landlords and/or tenants in the leasing of high tech or life sciences space in the Rockville/Gaithersburg, Maryland market area, (B) devoting substantially all of his/her time to professional appraisal or brokerage work, as applicable, at the time of appointment and (C) shall not then be, or in the preceding 5 years have been, employed by either party or their affiliates, and shall otherwise be in all respects impartial and disinterested.

(b) **Amended Lease**. Landlord and Tenant shall execute and deliver a lease amendment or lease agreement for the Available Space within the 15 day period specified in Section 39(a)(2) above or within 15 days after the final decision of the Arbitrator(s) as set forth in Section 39(a)(ii) above. Both Landlord and Tenant shall exercise diligence to ensure that such lease amendment or lease agreement is timely executed and delivered.

(c) **Exceptions**. Notwithstanding the above, the Negotiation Right shall not be in effect and may not be exercised by Tenant: (i) during any period of time that Tenant is in Default under any provision of this Lease; or (ii) if Tenant has been in Default under any provision of this Lease 3 or more times, regardless of whether the Defaults are cured, during the 12 month period prior to the date on which Tenant seeks to exercise the Negotiation Right.

(d) **Termination**. The Negotiation Right shall terminate and be of no further force or effect even after Tenant's due and timely exercise of the Negotiation Right, if, after such exercise, but prior to the commencement date of the lease of such Available Space, (i) Tenant is in Default under any provision of this Lease; or (ii) Tenant has Defaulted 3 or more times during the period from the date of the exercise of the Negotiation Right to the date of the commencement of the lease of the Available Space, regardless of whether such Defaults are cured.

(e) **Right Personal**. The Negotiation Right is personal to REGENXBIO Inc., and is not otherwise assignable without Landlord's consent, which may be granted or withheld in Landlord's sole discretion separate and apart from any consent by Landlord to an assignment of Tenant's interest in this Lease, except that the Negotiation Right shall automatically be assigned without Landlord's consent in connection with any assignment of this Lease that is a Permitted Transfer.

(f) **No Extensions**. The period of time within which the Negotiation Right may be exercised shall not be extended or enlarged by reason of Tenant's inability to exercise the Negotiation Right.

40. **Right to Expand in the Building or Project**.

(a) **Expansion in the Building**. Tenant shall have the right, but not the obligation, to expand the Premises ("**Expansion Right**") to include any Expansion Space (as defined below) in the Building upon the terms and conditions in this Section. For purposes of this Section, "**Expansion Space**" shall mean any space in the Building that is not occupied by a tenant or that is occupied by an existing tenant whose lease is expiring within 6 months or less and such tenant does not wish to renew (whether or not such tenant has a right to renew) its occupancy of such space. In no event shall the Expansion Space include any space on the first floor for the On Site Food Service (unless Landlord is not then operating and does not intend to operate the On Site Food Service) or Landlord's management office. If there is any Expansion Space in the Building, Landlord shall, when the availability of the Expansion Space becomes known (but not earlier than 180 days before such availability), deliver to Tenant written notice ("**Expansion Notice**") of the Expansion Space. The Expansion Notice shall set forth the terms and conditions on which Landlord is prepared to lease the Expansion Space to Tenant. The rental terms for the Expansion Space shall be the fair market rent, including market concessions (collectively, "**Expansion Space FMR/Concessions**") as mutually determined by Landlord and Tenant, and the Expansion Notice shall set forth Landlord's proposed Expansion Space FMR/Concessions. Tenant shall respond to the Expansion Notice within 10 business days after receipt thereof, which response shall state that Tenant (1) declines to lease the Expansion Space, (2) agrees to lease the Expansion Space on the terms set forth in the Expansion Notice (including the Expansion Space FMR/Concessions), in which event Landlord and Tenant shall within a period of 15 thereafter days execute and deliver an amendment to this Lease or a lease agreement for the Expansion Space, or (3) desires to lease the Expansion Space but in good faith disagrees with the proposed Expansion Space FMR/Concessions, in which event Landlord and Tenant shall, for a period of up to 15 days, negotiate in good faith for Tenant's lease of the Expansion Space on mutually acceptable Expansion Space FMR/Concessions. If Landlord and Tenant are unable to agree on the Expansion Space FMR/Concessions within such 15 day period after negotiating in good faith, the parties shall proceed to arbitration as set forth below.

(1) **Expansion Space FMR/Concession Proposal**. Within 10 days after the expiration of such 15 day period, each party shall deliver to the other a proposal containing the Expansion Space FMR/Concessions that the submitting party believes to be correct ("**Expansion Space FMR/Concessions Proposal**"). If either party fails to timely submit an Expansion Space FMR/Concessions Proposal, and such failure is not remedied within 3 business days after written notice thereof to such party, the other party's submitted Expansion Space FMR/Concessions Proposal shall be deemed the Expansion Space FMR/Concessions. If both parties submit Expansion Space FMR/Concessions Proposals, then Landlord and Tenant shall meet within 7 days after delivery of the last Expansion Space FMR/Concessions Proposal and make a good faith attempt to mutually appoint a single Arbitrator to determine the Expansion Space FMR/Concessions. If Landlord and Tenant are unable to agree upon a single Arbitrator, then each shall, by written notice delivered to the other within 10 days after the meeting, select an Arbitrator. If either party fails to timely give notice of its selection for an Arbitrator, and such failure is not remedied within 3 business days after written notice thereof to such party, the other party's submitted Expansion Space FMR/Concessions Proposal shall be deemed the Expansion Space FMR/Concessions. The 2 Arbitrators so appointed shall, within 5 business days after their appointment, appoint a third Arbitrator. If the 2 Arbitrators so selected cannot agree on the selection of the third Arbitrator

within the time above specified, then either party, on behalf of both parties, may request such appointment of such third Arbitrator by application to any state court of general jurisdiction in the jurisdiction in which the Premises are located, upon 10 days prior written notice to the other party of such intent.

(2) **Decision**. The decision of the Arbitrator(s) shall be made within 30 days after the appointment of a single Arbitrator or the third Arbitrator, as applicable. The decision of the Arbitrator(s) shall be limited solely as to which of the Expansion Space FMR/Concessions Proposals submitted by the parties is closest to the actual Expansion Space FMR/Concessions in such Arbitrator(s)' good faith professional judgment. The decision of the single Arbitrator, or the majority or unanimity of the 3 Arbitrator panel, as applicable, shall be final and binding upon the parties. Each party shall pay the fees and expenses of the Arbitrator appointed by or on behalf of such party (if applicable) and the fees and expenses of the agreed-upon single Arbitrator or the third Arbitrator, as applicable, shall be borne equally by both parties. Landlord and Tenant shall then execute and deliver a mutually acceptable amendment or lease agreement recognizing the Expansion Space FMR/Concessions, along with the other terms set forth in the Expansion Notice, for the Expansion Space.

Provided that no right to expand is exercised by any tenant with superior rights (as set forth in **Exhibit I**) and more than 3 years remain on the Term, Tenant shall be entitled to lease the Expansion Space upon the terms and conditions set forth in this Section 40(a).

(b) **Expansion in the Project**. Tenant shall have the right, but not the obligation, to expand the Premises ("**Project Expansion Right**") to include any Project Expansion Space (as defined below) in the Project upon the terms and conditions in this Section. For purposes of this Section, "**Project Expansion Space**" means any space in the Project containing at least 50,000 rentable square feet of contiguous space in Building B that is not occupied by a tenant or that is occupied by an existing tenant whose lease is expiring within 6 months or less and such tenant does not wish to renew (whether or not such tenant has a right to renew) its occupancy of such space. Landlord shall, when the availability of the Project Expansion Space becomes known (but not earlier than 180 days before such availability), deliver to Tenant written notice ("**Project Expansion Notice**") of the Project Expansion Space. The Project Expansion Notice shall set forth the terms and conditions on which Landlord is prepared to lease the Project Expansion Space. The rental terms for the Project Expansion Space shall be the fair market rent, including market concessions (collectively, "**Project Expansion Space FMR/Concessions**") as mutually determined by Landlord and Tenant, and the Project Expansion Notice shall set forth Landlord's proposed Project Expansion Space FMR/Concessions. Tenant shall respond to the Project Expansion Notice within 10 business days after receipt thereof, which response shall state that Tenant (1) declines to lease the Project Expansion Space, (2) agrees to lease the Project Expansion Space on the terms set forth in the Project Expansion Notice (including the Project Expansion Space FMR/Concessions), in which event Landlord and Tenant shall within a period of 15 days thereafter execute and deliver an amendment to this Lease or a lease agreement for the Project Expansion Space, or (3) desires to lease the Project Expansion Space but in good faith disagrees with the proposed Project Expansion Space FMR/Concessions, in which event Landlord and Tenant shall, for a period of up to 15 days, negotiate in good faith for Tenant's lease of the Project Expansion Space on mutually acceptable Project Expansion Space FMR/Concessions. If Landlord and Tenant are unable to agree on the Project Expansion Space FMR/Concessions within such 15 day period after negotiating in good faith, the parties shall proceed to arbitration as set forth below.

(1) **Project Expansion Space FMR/Concession Proposal**. Within 10 days after the expiration of such 15 day period, each party shall deliver to the other a proposal containing the Project Expansion Space FMR/Concessions that the submitting party believes to be correct ("**Project Expansion Space FMR/Concessions Proposal**"). If either party fails to timely submit a Project Expansion Space FMR/Concessions Proposal, and such failure is not remedied within 3 business days after written notice thereof to such party, the other party's submitted Project Expansion Space FMR/Concessions Proposal shall be deemed the Project Expansion Space FMR/Concessions. If both parties submit Project Expansion Space FMR/Concessions Proposals, then Landlord and Tenant shall meet within 7 days after delivery of

the last Project Expansion Space FMR/Concessions Proposal and make a good faith attempt to mutually appoint a single Arbitrator to determine the Project Expansion Space FMR/Concessions. If Landlord and Tenant are unable to agree upon a single Arbitrator, then each shall, by written notice delivered to the other within 10 days after the meeting, select an Arbitrator. If either party fails to timely give notice of its selection for an Arbitrator, and such failure is not remedied within 3 business days after written notice thereof to such party, the other party's submitted Project Expansion Space FMR/Concessions Proposal shall be deemed the Project Expansion Space FMR/Concessions. The 2 Arbitrators so appointed shall, within 5 business days after their appointment, appoint a third Arbitrator. If the 2 Arbitrators so selected cannot agree on the selection of the third Arbitrator within the time above specified, then either party, on behalf of both parties, may request such appointment of such third Arbitrator by application to any state court of general jurisdiction in the jurisdiction in which the Premises are located, upon 10 days prior written notice to the other party of such intent.

(2) **Decision**. The decision of the Arbitrator(s) shall be made within 30 days after the appointment of a single Arbitrator or the third Arbitrator, as applicable. The decision of the Arbitrator(s) shall be limited solely as to which of the Project Expansion Space FMR/Concessions Proposals submitted by the parties is closest to the actual Project Expansion Space FMR/Concessions in such Arbitrator(s)' good faith professional judgment. The decision of the single Arbitrator, or the majority or unanimity of the 3 Arbitrator panel, as applicable, shall be final and binding upon the parties. Each party shall pay the fees and expenses of the Arbitrator appointed by or on behalf of such party (if applicable) and the fees and expenses of the agreed-upon single Arbitrator or the third Arbitrator, as applicable, shall be borne equally by both parties. Landlord and Tenant shall then execute and deliver a mutually acceptable amendment or a lease agreement recognizing the Project Expansion Space FMR/Concessions, along with the other terms set forth in the Project Expansion Notice, for the Project Expansion Space.

Provided that no right to expand is exercised by any tenant with superior rights (as set forth in **Exhibit I**) and more than 3 years remain on the Term, Tenant shall be entitled to lease the Project Expansion Space upon the terms and conditions set forth in this Section 40(b).

(c) **Amended Lease**. If Tenant fails to deliver notice responding to an Expansion Notice or a Project Expansion Notice as provided herein within 10 business days following such tender, Tenant shall be deemed to have waived its right to lease the Expansion Space or Project Expansion Space, as applicable, described in such Expansion Notice or Project Expansion Notice. Landlord and Tenant shall execute and deliver a lease amendment or lease agreement for the Expansion Space or Project Expansion Space within the 30 day period from the date Tenant gives notice accepting Landlord's offer to lease the Expansion Space or Project Expansion Space. Both Landlord and Tenant shall exercise diligence to ensure that such lease amendment or lease agreement is timely executed and delivered.

(d) **Exceptions**. Notwithstanding the above, the Expansion Right and Project Expansion Right shall not be in effect and may not be exercised by Tenant: (i) during any period of time that Tenant is in Default under any provision of this Lease; or (ii) if Tenant has been in Default under any provision of this Lease 3 or more times, regardless of whether the Defaults are cured, during the 12 month period prior to the date on which Tenant seeks to exercise the Expansion Right or Project Expansion Right.

(e) **Termination**. The Expansion Right or Project Expansion Right (as applicable) shall terminate and be of no further force or effect even after Tenant's due and timely exercise of the Expansion Right or Project Expansion Right (as applicable), if, after such exercise, but prior to the commencement date of the lease of the Expansion Space or Project Expansion Space (as applicable), (i) Tenant is in Default under any provision of this Lease; or (ii) Tenant has Defaulted 3 or more times during the period from the date of the exercise of the Expansion Right or Project Expansion Right (as applicable) to the date of the commencement of the lease of the Available Space or Project Expansion Space (as applicable), regardless of whether such Defaults are cured.

(f) **Subordinate**. Tenant's rights in connection with the Expansion Right and Project Expansion Right (as applicable) are and shall be subject to and subordinate to any expansion or extension rights granted in the Project as set forth in **Exhibit I**.

(g) **Rights Personal**. The Expansion Right and Project Expansion Right are personal to REGENXBIO Inc. and are not assignable without Landlord's consent, which may be granted or withheld in Landlord's sole discretion separate and apart from any consent by Landlord to an assignment of Tenant's interest in this Lease, except that they shall automatically be assigned without Landlord's consent in connection with any assignment of this Lease that is a Permitted Transfer.

(h) **No Extensions**. The period of time within which any Expansion Right or Project Expansion Right (as applicable) may be exercised shall not be extended or enlarged by reason of Tenant's inability to exercise the Expansion Right or Project Expansion Right (as applicable).

41. **Hold Space Option**. As long as Tenant is not in Default, Landlord shall not market the balance of the leaseable space on the first floor of the Building ("**Hold Space**") to prospective tenants for the period between the Commencement Date and June 1, 2019. The provisions of this Section shall not apply, however, to any space on the first floor for the On Site Food Service (unless Landlord is not then operating and does not intend to operate the On Site Food Service) or Landlord's management office. If not later than June 1, 2019, Tenant notifies Landlord that Tenant wishes to the lease the Hold Space as of a date specified in such notice (but not later than June 1, 2019), the Hold Space shall be added to the Premises effective as of such specified commencement date and for the remainder of the Base Term (subject to the Extension Right set forth in Section 42) and otherwise upon the same terms, rent, and leasing concessions as provided to Tenant for the leasing of the Initial Premises, including an abatement of Base Rent for a period of 12 months from the commencement of the leasing of the Hold Space, and a tenant improvement allowance in the amount equal to $110 per rentable square foot of the Hold Space.

42. **Right to Extend Term**. Tenant shall have the right to extend the Term of this Lease upon the following terms and conditions:

(a) **Extension Rights**. Tenant shall have 2 consecutive rights (each, an "**Extension Right**") to extend the term of this Lease for 5 years each (each, an "**Extension Term**") on the same terms and conditions as this Lease (other than Base Rent and the TI Allowance (as defined in **Exhibit C-2** attached hereto)) by giving Landlord written notice of its election to exercise each Extension Right at least 12 months prior, and no earlier than 18 months prior, to the expiration of the Base Term of this Lease or the expiration of any prior Extension Term. Within 30 days after Landlord's receipt of Tenant's exercise notice with respect to an Extension Right, Landlord shall provide Tenant with its written good faith determination of the Market Rate (including Base Rent, annual escalations thereof, and tenant improvement allowance) for the applicable Extension Term.

(b) **Market Rate**. Upon the commencement of any Extension Term, Base Rent and tenant improvement allowance shall be payable at the Market Rate (as defined below). Base Rent shall thereafter be adjusted on each anniversary of the commencement of such Extension Term by a percentage as determined at the time the Market Rate is determined. As used herein, "**Market Rate**" shall mean the then market base rental rate for comparable space for a comparable term in comparable buildings in the Rockville/Gaithersburg, Maryland market and annual escalations thereof, taking into account the existence and amount of any tenant improvement allowance or any other cash payment or other equivalent concession, including, without limitation, moving allowances, lease takeover allowances (or where a lease assumption is applicable, the value thereof), and any other comparable tenant inducement and market concession.

(c) **Arbitration—Generally**. If, on or before the date that is 150 days before the expiration of the Base Term of this Lease, or the expiration of any prior Extension Term, Tenant has not agreed with Landlord's initial determination of the Market Rate (including Base Rent, annual escalations thereof, and tenant improvement allowance) during such subsequent Extension Term after negotiating in good faith, Tenant may by written notice to Landlord not later than 120 days prior to the expiration of the Base Term of this Lease, or the expiration of any then effective Extension Term, elect arbitration as described in Section 42(d). If Tenant does not timely elect such arbitration, Tenant shall be deemed to have agreed to the Market Rate as most recently proposed to Tenant in writing by Landlord.

(d) **Arbitration—Process**.

(1) **Extension Proposal**. Within 10 days of Tenant's notice to Landlord of its election to arbitrate Market Rate (including Base Rent, annual escalations thereof, and tenant improvement allowance), each party shall deliver to the other a proposal containing the Market Rate (including Base Rent, annual escalations thereof, and tenant improvement allowance) that the submitting party believes in good faith to be correct ("**Extension Proposal**"). If either party fails to timely submit an Extension Proposal, and such failure is not remedied within 3 business days after written notice thereof to such party, the other party's submitted proposal shall determine the Base Rent, annual escalations thereof, and tenant improvement allowance for the Extension Term. If both parties submit Extension Proposals, then Landlord and Tenant shall meet within 7 days after delivery of the last Extension Proposal and make a good faith attempt to mutually appoint a single Arbitrator to determine the Market Rate (including Base Rent, annual escalations thereof, and tenant improvement allowance). If Landlord and Tenant are unable to agree upon a single Arbitrator, then each shall, by written notice delivered to the other within 10 days after the meeting, select an Arbitrator. If either party fails to timely give notice of its selection for an Arbitrator, and such failure is not remedied within 3 business days after written notice thereof to such party, the other party's submitted proposal shall determine the Base Rent, annual escalations thereof, and tenant improvement allowance for the Extension Term. The 2 Arbitrators so appointed shall, within 5 business days after their appointment, appoint a third Arbitrator. If the 2 Arbitrators so selected cannot agree on the selection of the third Arbitrator within the time above specified, then either party, on behalf of both parties, may request such appointment of such third Arbitrator by application to any state court of general jurisdiction in the jurisdiction in which the Premises are located, upon 10 days prior written notice to the other party of such intent.

(2) **Decision**. The decision of the Arbitrator(s) shall be made within 30 days after the appointment of a single Arbitrator or the third Arbitrator, as applicable. The decision of the Arbitrator(s) shall be limited solely as to which of the Market Rent proposals submitted by the parties is closest to the actual Market Rent for the Extension Term in such Arbitrator(s)' good faith professional judgment. The decision of the single Arbitrator, or the majority or unanimity of the 3 Arbitrator panel, as applicable, shall be final and binding upon the parties. Each party shall pay the fees and expenses of the Arbitrator appointed by or on behalf of such party (if applicable) and the fees and expenses of the agreed-upon single Arbitrator or the third Arbitrator, as applicable, shall be borne equally by both parties. If the Market Rate (including Base Rent, annual escalations thereof, and tenant improvement allowance) are not determined by the first day of the Extension Term, then Tenant shall pay Landlord Base Rent in an amount equal to the Base Rent in effect immediately before the Extension Term and increased by the Rent Adjustment Percentage until such determination is made. After the determination of the Market Rate (including Base Rent, annual escalations thereof, and tenant improvement allowance), the parties shall make any necessary adjustments to such payments made by Tenant. Landlord and Tenant shall then execute and deliver a mutually acceptable amendment recognizing the Market Rate (including Base Rent, annual escalations thereof, and tenant improvement allowance) for the Extension Term.

(e) **Rights Personal**. Extension Rights are personal to REGENXBIO, Inc. and are not assignable without Landlord's consent, which may be granted or withheld in Landlord's sole discretion separate and apart from any consent by Landlord to an assignment of Tenant's interest in this Lease, except

that they may be assigned without Landlord's consent in connection with any assignment of this Lease that is a Permitted Transfer.

(f) **Exceptions**. Notwithstanding anything set forth above to the contrary, Extension Rights shall not be in effect and Tenant may not exercise any of the Extension Rights: (i) during any period of time that Tenant is in Default under any provision of this Lease; or (ii) if Tenant has been in Default under any provision of this Lease 3 or more times, whether or not the Defaults are cured, during the 12 month period immediately prior to the date that Tenant intends to exercise an Extension Right, regardless of whether the Defaults are cured.

(g) **No Extensions**. The period of time within which any Extension Rights may be exercised shall not be extended or enlarged by reason of Tenant's inability to exercise the Extension Rights.

(h) **Termination**. The Extension Rights shall terminate and be of no further force or effect even after Tenant's due and timely exercise of an Extension Right, if, after such exercise, but prior to the commencement date of an Extension Term, (i) Tenant is in Default under any provision of this Lease; or (ii) Tenant has Defaulted 3 or more times during the period from the date of the exercise of an Extension Right to the date of the commencement of the Extension Term, regardless of whether such Defaults are cured.

43. **Right of First Offer to Purchase Building**.

(a) **General**. If at any time during the Term of this Lease, Landlord shall desire to sell fee simple title to the Building to a third party as one parcel (either by a separately recorded parcel of land or by a condominium regime), Landlord shall first offer the Building to Tenant ("**Right of First Offer**") by delivering to Tenant a written notice specifying the Basic Sale Terms (as defined below) upon which Landlord desires to sell the Building ("**Sale Notice**"). For a period of 30 days after Tenant's receipt of the Sale Notice, Landlord and Tenant shall negotiate in good faith the terms and conditions of the sale as set forth in the Sale Notice and such other terms and conditions acceptable to Landlord and Tenant. If Landlord and Tenant do not execute and deliver a binding contract of sale for the Building by the expiration of such 30-day negotiation period, then Landlord shall be free to sell the Building to a third-party upon terms and conditions acceptable to Landlord, except as provided in Section 43(d) below.

(b) **No Right if Default, Assignment, or Sublet**. Tenant shall not have a Right of First Offer if, at the time Landlord delivers the Sale Notice to Tenant, Tenant is in Default under any provision of this Lease. The Right of First Offer is personal to REGENXBIO, Inc. and is not assignable without Landlord's consent, which consent may be granted or withheld in Landlord's sole discretion separate and apart from any consent by Landlord to an assignment of Tenant's interest in this Lease, except that the Right of First Offer shall automatically be assigned without Landlord's consent in connection with any assignment of this Lease that is a Permitted Transfer.

(c) **Certain Transfers Excluded**. The Right of First Offer shall not apply to the following (collectively, "**Excluded Transfers**"): (i) any sale/leaseback transaction; (ii) any sale or transfer of the Building or Project to an entity in which Landlord or a Landlord Affiliate (as defined below) has a controlling interest; (iii) any transfer without consideration, (iv) any sale of the Project as a whole, (v) any condemnation or eminent domain action or proceeding affecting all or any part of the Building by any governmental or quasi-governmental authority for any public or quasi-public use or purpose, including a sale thereof under threat of such a taking, (vi) any foreclosure proceeding or sale or any sale in lieu of a foreclosure affecting the Building, or (vii) any portfolio transaction that includes at least one other real estate asset consisting of a commercial building or land capable of accommodating a new commercial building. For purposes of this Lease, (A) "**Landlord Affiliate**" means, with respect to Landlord, any person or entity Controlling, Controlled by, or under common Control with Landlord, and (B) "**Control**" (and any form thereof, such as "**Controlled**" or "**Controlling**") means with respect to any person or entity the possession directly or indirectly, through

one or more intermediaries, of the power to: (1) vote more than 50% of the voting stock of such person or entity; or (2) direct or cause the direction of the management or policies of such person or entity, whether through the ownership of voting securities, membership interests, partnership interests, by contract, or otherwise.

(d) **Revival of Right of First Offer**. If after Tenant either rejects the Right of First Offer or does not timely exercise the Right of First Offer and Landlord desires to offer the Building for sale at a purchase price that is less than 95% of the purchase price stated in the Basic Sale Terms, then Landlord must first give Tenant a new notice of its Right of First Offer to purchase the Building in accordance with the procedures set forth in this Section 43. If after Tenant timely exercises the Right of First Offer, Landlord and Tenant fail to execute and deliver a binding contract of sale for the Building by the expiration of the 30-day negotiation period described in Section 43(a) above, and Landlord is willing to sell the Building to a third-party at a purchase price that is less than 95% of the best written purchase price offer made by Tenant and delivered to Landlord during such 30-day negotiation period, then Landlord must first give Tenant a new notice of its Right of First Offer to purchase the Building in accordance with the procedures set forth in this Section 43. If Tenant either rejects the Right of First Offer or does not timely exercise the Right of First Offer, or if after Tenant timely exercises the Right of First Offer, Landlord and Tenant fail to execute and deliver a binding contract of sale for the Building by the expiration of the 30-day negotiation period described in Section 43(a) above, and within a period of 180 days thereafter Landlord fails to enter into a binding contract of sale for the Building to a third party, then Landlord must first give Tenant a new notice of its Right of First Offer to purchase the Building in accordance with the procedures set forth in this Section 43.

(e) **Right of First Offer Terminates After Sale to Third Party**. Upon any sale of the Building (other than a sale described in Section 43(c)(i), (iii), (iv), (vi), or (vii) that includes the Building) to a third-party and subject to Landlord's compliance with the terms of this Section, the Right of First Offer shall forever terminate.

(f) **Definition**. For purposes of this Lease, "**Basic Sale Terms**" means the purchase price, terms of payment of the purchase price, financing contingencies, if any, closing date, and any other terms Landlord desires to include in the Sale Notice to Tenant.

(g) **Termination of Lease**. This Lease shall terminate upon transfer of fee title to the Building by a special warranty deed to Tenant pursuant to this Section.

44. **Termination Option**. Notwithstanding anything to the contrary contained herein, Tenant shall have a one-time option to terminate this Lease ("**Termination Option**") in accordance with the following terms and conditions:

(a) **Tenant Gives Notice**. If Tenant desires to exercise the Termination Option, Tenant shall give Landlord irrevocable written notice ("**Termination Notice**") of Tenant's exercise of the Termination Option. The Termination Notice must be deemed given to Landlord no later than the date that is 12 months before the Termination Date. Time is of the essence with respect to giving of the Termination Notice and all other deadlines in this Section.

(b) **Termination Date**. If Tenant gives the Termination Notice and complies with all the provisions in this Section, this Lease shall terminate at midnight at the end of the 120th full calendar month after the 4th Floor Rent Commencement Date ("**Termination Date**").

(c) **Termination Fee**. For the Termination Notice to be effective, Tenant shall pay 50% of the Termination Fee (as defined below) to Landlord in certified funds concurrently with the delivery of the Termination Notice to Landlord. Tenant shall pay the remaining 50% of the Termination Fee to Landlord in certified funds at least 30 days before the Termination Date. For purposes of this Section, "**Termination**

Fee" means an amount equal to the aggregate of (i) the unamortized amount, as of the Termination Date, of the TI Allowance (as defined in the Tenant Work Letter), the Base Rent Abatement, the leasing commissions paid by Landlord in connection with this Lease (which amounts shall be amortized over the Base Term on a straight-line basis over the Base Term with interest at 5% per annum), and (ii) an amount equal to the sum of 4 months of the then amount of Base Rent and Tenant's Share of Operating Expenses. The amount of the Termination Fee shall be calculated by Landlord and provided to Tenant in reasonably detailed written form within 30 days after Tenant's written request therefor.

(d) **Tenant's Obligation Survives Termination**. With respect to this Section, Tenant's obligations to pay Rent and Additional Rent under this Lease, and to perform all other Lease obligations for the period up to and including the Termination Date, shall survive the termination of this Lease.

(e) **Landlord May Cancel and Void Termination if Tenant in Default**. Notwithstanding the foregoing provisions of this Section, if Tenant shall exercise the Termination Option (in accordance with clause (a) above) when it is in Default more than one time in any calendar year, then Landlord may elect, but is not obligated, to cancel and declare null and void Tenant's exercise of the Termination Option and this Lease shall continue in full force and effect for the full Term unaffected by Tenant's exercise of the Termination Option. If Landlord does not cancel Tenant's exercise of the Termination Option after such Default, Tenant shall cure any Default within the period of time specified in this Lease and this obligation shall survive the Termination Date.

(f) **Tenant Shall Surrender Space by Termination Date**. If Tenant exercises the Termination Option, Tenant shall surrender full and complete possession of the Premises to Landlord on the Termination Date vacant, broom-clean, in good order and condition, subject to Tenant Improvements, any Alterations or Installations permitted by this Lease upon surrender to remain in the Premises, and ordinary wear and tear, loss due to casualty and condemnation, damage that Landlord is obligated to repair or restore, and Landlord's legal compliance obligations under this Lease, excepted, and in accordance with the provisions of this Lease (including, but not limited to, Section 28), and thereafter the Premises shall be free and clear of all leases, tenancies, and rights of occupancy of any entity claiming by, through, or under Tenant.

(g) **Failure to Surrender Makes Tenant a Holdover**. If Tenant shall fail to deliver possession of the Premises on or before the Termination Date in accordance with the terms hereof, Tenant shall be deemed to be a holdover tenant from and after the Termination Date, and in such event, Tenant shall be subject to the provisions of Section 8 relating to holdover tenancies.

(h) **Lease Ceases After Termination**. If Tenant properly and timely exercises the Termination Option and properly and timely satisfies all other monetary and non-monetary obligations under this Lease, this Lease shall cease and expire on the Termination Date with the same force and effect as if the Termination Date were the date originally provided in this Lease as the expiration date of the Term.

45. **Termination Right for Lease and License Agreement at 9712-9714 Medical Center Drive**. As of the Commencement Date, Tenant leases space in the buildings located at 9712-9714 Medical Center Drive, Rockville, Maryland, pursuant to (a) a Lease dated March 6, 2015, as amended ("**MCD Lease**"), between ARE-Maryland No. 45, LLC, a Delaware limited liability company, an affiliate of Landlord and successor in interest to BMR-Medical Center Drive, LLC ("**MCD Landlord**"), and Tenant, and (b) a Space License Agreement dated February 22, 2016, as amended ("**MCD License**"), between MCD Landlord and Tenant. As long as Tenant is not in Default under this Lease or the MCD Lease, Tenant shall have the right to terminate the MCD Lease and MCD License without fee or penalty by delivering written notice of termination to Landlord ("**MCD Termination Notice**"). Tenant shall specify the termination date in the MCD Termination Notice (which termination date shall be at least 6 months after the date of the MCD Termination Notice and not earlier than the Lease Commencement Date). The MCD Lease and MCD License shall terminate on such termination date as if such termination date were the expiration date of the

MCD Lease and MCD License, Tenant shall return to MCD Landlord the space leased or licensed pursuant to the MCD Lease and MCD License, respectively, in accordance with the applicable terms and conditions of the MCD Lease and MCD License, and Landlord shall refund to Tenant the Security Deposit, the Suite 1114 Additional Security Deposit and the Suite 1214 Additional Security Deposit (as such terms are defined in the MCD Lease), in accordance with the applicable terms and conditions of the MCD Lease.

46. **Roof Equipment**. As long as Tenant is not in Default, Tenant shall have the right at its sole cost and expense, subject to compliance with all Legal Requirements, to install on the roof of the Building (in Tenant's Share of the space available therefor on the roof), and throughout the Term, operate, maintain, repair, replace, and remove, (i) one or more satellite dishes, communication antennae, or other communications equipment (all of which having a diameter and height reasonably acceptable to Landlord) for the transmission or reception of communication of signals as Tenant may from time to time desire, and (ii) equipment for any supplemental HVAC systems installed by or on behalf of Tenant and providing service to the Premises, as may be approved by Landlord as part of the Tenant Improvements or any subsequent Alterations (collectively, the "**Roof Equipment**"), on the following terms and conditions:

(a) **Requirements**. Tenant shall submit to Landlord (i) the plans and specifications for the installation of the Roof Equipment (which may be part of the plans and specifications for the Tenant Improvements or any subsequent Alterations), (ii) copies of all required governmental and quasi-governmental permits, licenses, and authorizations that Tenant will and must obtain at its own expense, with the cooperation of Landlord, if necessary for the installation and operation of the Roof Equipment, and (iii) an insurance policy or certificate of insurance evidencing insurance coverage as required by this Lease and any other insurance as reasonably required by Landlord for the installation and operation of the Roof Equipment, which such other insurance shall be consistent with that typically required by landlords of comparable buildings in the vicinity of the Project. Landlord shall not unreasonably withhold or delay its approval for the installation and operation of the Roof Equipment; provided, however, that Landlord may reasonably withhold its approval if the installation or operation of the Roof Equipment (A) is reasonably likely to damage the structural integrity of the Building, (B) is reasonably likely to void, terminate, or invalidate any applicable roof warranty, (C) is reasonably likely to interfere with any service provided by Landlord or with the existing satellite dishes, communication antennae, or other communications equipment of any other tenant of the Building, (D) is not reasonably screened from viewing from the ground level adjacent to the Building.

(b) **No Damage to Roof**. If installation of the Roof Equipment requires Tenant to make any roof cuts or perform any other roofing work, such cuts shall only be made in the manner reasonably designated in writing by Landlord; and any such installation work (including any roof cuts or other roofing work) shall be performed by Tenant, at Tenant's sole cost and expense by a roofing contractor designated by Landlord and reasonably acceptable to Tenant. If Tenant or its agents shall otherwise cause any damage to the roof during the installation, operation, and removal of the Roof Equipment such damage shall be repaired promptly at Tenant's expense and the roof shall be restored to the same condition it was in before the damage, reasonable wear and tear excepted. Landlord shall not charge Tenant Additional Rent for the installation and use of the Roof Equipment. If, however, Landlord's insurance premium or Tax assessment increases solely as a result of the Roof Equipment, Tenant shall pay such increase as Additional Rent within 30 days after receipt of a reasonably detailed invoice from Landlord. Tenant shall not be entitled to any abatement or reduction in the amount of Rent payable under this Lease if for any reason Tenant is unable to use the Roof Equipment. In no event whatsoever shall the installation, operation, maintenance, or removal of the Roof Equipment by Tenant or its agents void, terminate, or invalidate any applicable roof warranty.

(c) **Protection**. The installation, operation, maintenance, and removal of the Roof Equipment shall be at Tenant's sole risk. Tenant shall indemnify, defend, and hold Landlord harmless from and against any and all claims, costs, damages, liabilities and expenses (including, but not limited to, reasonable attorneys' fees) of every kind and description that may arise out of or be connected in any way

with Tenant's installation, operation, maintenance, or removal of the Roof Equipment, except to the extent caused by the willful misconduct or gross negligence of Landlord or its employees.

(d) **Removal**. At the expiration or earlier termination of this Lease or the permanent discontinuance of the use of the Roof Equipment by Tenant, Tenant shall, at its sole cost and expense, remove the Roof Equipment from the roof of the Building, in which event Tenant shall leave the portion of the roof where the Roof Equipment was located in the same condition it was in before the installation thereof, reasonable wear and tear excepted. If Tenant does not so remove the Roof Equipment, Tenant hereby authorizes Landlord to remove and dispose of the Roof Equipment and charge Tenant as Additional Rent for all reasonable out-of-pocket costs and expenses incurred by Landlord in such removal and disposal. Tenant agrees that Landlord shall not be liable for any Roof Equipment disposed of or removed by Landlord.

(e) **No Interference**. The Roof Equipment shall not interfere (other than in a de minimus manner) with the proper functioning of any telecommunications equipment or devices that have been installed or will be installed by Landlord or for any other tenant or future tenant of the Building. Tenant acknowledges that other tenant(s) may have approval rights over the installation and operation of telecommunications equipment and devices on or about the roof, and that Tenant's right to install and operate the Roof Equipment is subject and subordinate to the rights of such other tenants that install roof equipment before Tenant installs any Roof Equipment. Tenant agrees that Landlord and any other tenant of the Building that currently has or in the future takes possession of any portion of the Building will be permitted to install such telecommunication equipment that is of a type and frequency that will not interfere (other than in a de minimus manner) with the Roof Equipment.

(f) **Relocation**. Landlord shall have the right, at its expense and after 60 days' prior notice to Tenant, to relocate the Roof Equipment to another site on the roof of the Building as long as such site reasonably meets Tenant's sight line and interference requirements and does not unreasonably interfere with Tenant's use and operation of the Roof Equipment.

(g) **Access**. The right of Tenant to install, operate, maintain, repair, replace, and remove the Roof Equipment shall be personal solely to REGENXBIO Inc. and its permitted assignees and subtenants, and (i) no other person or entity shall have any right to use or operate the Roof Equipment, and (ii) Tenant shall not assign, convey, or otherwise transfer to any person or entity any right, title, or interest in all or any portion of the Roof Equipment or the use and operation thereof, except that the right of Tenant to install, operate, maintain, repair, replace, and remove the Roof Equipment shall be automatically assigned without Landlord's consent in connection with any assignment of this Lease that is a Permitted Transfer.

(h) **Appearance**. The Roof Equipment shall be reasonably screened from viewing from the ground level adjacent to the Building.

47. **Miscellaneous**.

(a) **Notices**. All notices or other communications between the parties shall be in writing and shall be deemed duly given upon delivery or refusal to accept delivery by the addressee thereof if delivered in person, or upon actual receipt if delivered by reputable overnight guaranty courier, addressed and sent to the parties at their addresses set forth above. Landlord and Tenant may from time to time by written notice to the other designate another address for receipt of future notices.

(b) **Joint and Several Liability**. If and when included within the term "**Tenant**," as used in this instrument, there is more than one person or entity, each shall be jointly and severally liable for the obligations of Tenant.

(c) **Financial Information**. If at any time during the Term of this Lease, Tenant is in Default under Section 20(a), or Landlord reasonably is concerned with the financial condition of Tenant, then in any such event Tenant shall furnish Landlord, from time to time, upon Landlord's written request (but no more than twice per calendar year), Tenant's most recent year-end unconsolidated financial statements reflecting Tenant's current financial condition audited by a nationally recognized accounting firm. This subsection shall not apply during any period that Tenant is publicly traded on a recognized national stock exchange or trading system in the United States such as the New York Stock Exchange or NASDAQ.

(d) **Recordation**. Neither this Lease nor a memorandum of lease shall be filed by or on behalf of Tenant in any public record, but Tenant shall have the right at its expense to file a copy of this Lease or a memorandum thereof with the U.S. Securities and Exchange Commission if required to do so by applicable Legal Requirement. Landlord may prepare and file, and upon request by Landlord Tenant will execute, a memorandum of lease, provided no rent or other economic information is included therein.

(e) **Interpretation**. 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. The captions inserted in this Lease are for convenience only and in no way define, limit or otherwise describe the scope or intent of this Lease, or any provision hereof, or in any way affect the interpretation of this Lease.

(f) **Not Binding Until Executed**. The submission by Landlord to Tenant of this Lease shall have no binding force or effect, shall not constitute an option for the leasing of the Premises, nor confer any right or impose any obligations upon either party until execution of this Lease by both parties.

(g) **Limitations on Interest**. It is expressly the intent of Landlord and Tenant at all times to comply with applicable law governing the maximum rate or amount of any interest payable on or in connection with this Lease. If applicable law is ever judicially interpreted so as to render usurious any interest called for under this Lease, or contracted for, charged, taken, reserved, or received with respect to this Lease, then it is Landlord's and Tenant's express intent that all excess amounts theretofore collected by Landlord be credited on the applicable obligation (or, if the obligation has been or would thereby be paid in full, refunded to Tenant), and the provisions of this Lease immediately shall be deemed reformed and the amounts thereafter collectible hereunder reduced, without the necessity of the execution of any new document, so as to comply with the applicable law, but so as to permit the recovery of the fullest amount otherwise called for hereunder.

(h) **Choice of Law**. Construction and interpretation of this Lease shall be governed by the internal laws of the state in which the Premises are located, excluding any principles of conflicts of laws.

(i) **Time**. Time is of the essence as to the performance of Landlord's and Tenant's obligations under this Lease.

(j) **OFAC**. Tenant and Landlord are currently (i) in compliance with and shall at all times during the Term of this Lease remain in compliance with the regulations of the Office of Foreign Assets Control ("**OFAC**") of the U.S. Department of Treasury and any statute, executive order, or regulation relating thereto (collectively, the "**OFAC Rules**"), (ii) not listed on, and shall not during the Term of this Lease be listed on, the Specially Designated Nationals and Blocked Persons List, Foreign Sanctions Evaders List, or the Sectoral Sanctions Identifications List, which are all maintained by OFAC and/or on any other similar list maintained by OFAC or other governmental authority pursuant to any authorizing statute, executive order, or regulation, and (iii) not a person or entity with whom a U.S. person is prohibited from conducting business under the OFAC Rules.

(k) **Incorporation by Reference**. All exhibits and addenda attached hereto are hereby incorporated into this Lease and made a part hereof. Except as otherwise provided in Section 26, if there is any conflict between such exhibits or addenda and the terms of this Lease, such exhibits or addenda shall control.

(l) **No Accord and Satisfaction**. No payment by Tenant or receipt by Landlord of a lesser amount than the monthly installment of Base Rent or any Additional Rent will be other than on account of the earliest stipulated Base Rent and Additional Rent, nor will any endorsement or statement on any check or letter accompanying a check for payment of any Base Rent or Additional Rent be an accord and satisfaction. Landlord may accept such check or payment without prejudice to Landlord's right to recover the balance of such Rent or to pursue any other remedy provided in this Lease.

(m) **Confidentiality**. Except as otherwise provided in this Lease, the terms and conditions of this Lease shall be kept confidential by Landlord and Tenant and not disclosed to third-parties without the prior written consent of the other party.

(1) **By Landlord**. Notwithstanding the confidentiality provisions herein, Landlord may disclose the existence and/or contents of this Lease: (A) as and only to the extent required by Legal Requirements or in response to a request by a Governmental Authority; (B) as necessary to (I) manage its investment in the Building or Project or (II) seek input, advice, or guidance from existing or prospective professional advisors, including, without limitation, analysts, investors, tax preparers, bank personnel, brokers, business advisors, legal advisors, lenders, and financial advisors; (C) as necessary to manage and enforce the terms of this Lease, (D) if the information is already a matter of public record or generally known to the public, or (E) as otherwise reasonably necessary in the course of operations of the property or business of Landlord and its affiliates, including, without limitation, capital formation.

(2) **By Tenant**. Notwithstanding the confidentiality provisions herein, Tenant may disclose the existence and/or contents of this Lease: (A) as and only to the extent required by Legal Requirements or in response to a request by a Governmental Authority; (B) as necessary to seek input, advice, or guidance from existing or prospective professional advisors, including, without limitation, tax preparers, bank personnel, brokers, business advisors, legal advisors, lenders, accountants, auditors, and financial advisors; (C) as necessary to manage and enforce the terms of this Lease (including, without limitation, Tenant's audit rights hereunder), (D) as necessary for any potential or actual transaction with Tenant's actual or prospective lenders, purchasers, sellers, equipment lessors, joint venturers, assignees or subtenants, and their respective professional advisors (provided such parties are advised of the provisions of this Section 47(m) and agree to abide by them), or (E) if the information is already a matter of public record or generally known to the public.

(n) **Counterparts/Electronic Signatures**. This Lease may be executed in 2 or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature process complying with the U.S. federal ESIGN Act of 2000) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes. Electronic signatures shall be deemed original signatures for purposes of this Lease and all matters related thereto, with such electronic signatures having the same legal effect as original signatures.

(o) **Hazardous Activities**. Notwithstanding any other provision of this Lease, Landlord, for itself and its employees, agents and contractors, reserves the right to refuse to perform any repairs or services in any portion of the Premises that, pursuant to Tenant's routine safety guidelines, practices or custom or prudent industry practices, require any form of protective clothing or equipment other than safety glasses. In any such case, Tenant shall contract with parties who are acceptable to Landlord, in Landlord's

reasonable discretion, for all such repairs and services, and Landlord shall, to the extent required, equitably adjust Tenant's Share of Operating Expenses in respect of such repairs or services to reflect that Landlord is not providing such repairs or services to Tenant.

(p) **LEED; Fitwel**. Tenant acknowledges that Landlord may, but shall not be obligated to, seek to obtain Leadership in Energy and Environmental Design (LEED), LEED Silver, or other similar "green" certification for the Project and/or the Premises, such as a Fitwel certification. Tenant agrees to reasonably cooperate with Landlord, at no material out-of-pocket cost to Tenant (other than Tenant's Share of Operating Expenses), and to provide such non-confidential and non-proprietary information and/or documentation as Landlord may reasonably request, in connection therewith.

(q) **No Conflicts or Consent**. To Landlord's Knowledge, (i) Landlord's execution and delivery of this Lease will not conflict with or result in any violation of any provision of any contract or other agreement or instrument to which Landlord is a party, or (ii) no consent, approval, order, permit or authorization of, or registration, filing or declaration with, any court, administrative agency or commission or other Governmental Authority, is required to be obtained or made in connection with the execution and delivery of this Lease by Landlord. For purposes of this Lease, "**Landlord's Knowledge**" means the current actual knowledge of Lawrence J. Diamond, the co-chief operating officer of Alexandria Real Estate Equities, Inc., an affiliate of Landlord. Mr. Diamond shall have no personal liability whatsoever under this Lease or otherwise.

(r) **Attorneys' Fees**. If any action is brought by either party against the other party, relating to or arising out of this Lease or the enforcement hereof, the prevailing party shall be entitled to recover from the other party reasonable attorneys' fees, costs and expenses incurred in connection with the prosecution or defense of such action. For purposes of this Lease, (i) the term "**attorneys' fees**" or "**attorneys' fees and costs**" shall mean the fees and expenses of counsel to the parties hereto, which may include printing, photostating, duplicating and other expenses, air freight charges, and fees billed for law clerks, paralegals and other persons not admitted to the bar but performing services under the supervision of an attorney, and the costs and fees incurred in connection with the enforcement or collection of any judgment obtained in any such proceeding, and (ii) a party shall be considered the "**prevailing party**" to the extent that (1) such party initiated the litigation and substantially obtained the relief which it sought (whether by judgment, voluntary agreement or action of the other party, trial or alternative dispute resolution process), (2) such party did not initiate the litigation and did not receive judgment in its favor, but the party receiving the judgment did not substantially obtain the relief that it sought, or (3) the other party to the litigation withdrew its claim or action without having substantially received the relief which it was seeking. The provisions of this Section shall survive the entry of any judgment, and shall not merge, or be deemed to have merged, into any judgment.

[Signatures on next page]

IN WITNESS WHEREOF, Landlord and Tenant have executed this Lease under seal as of the day and year first above written.

TENANT:

REGENXBIO INC.,
a Delaware corporation

By: /s/ Kenneth Mills (SEAL)
Name: Kenneth Mills
Title: President & CEO

LANDLORD:

ARE-MARYLAND NO. 24, LLC,
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS CORP.,
a Maryland corporation,
general partner

By: /s/ Jackie Clem (SEAL)
Name: Jackie Clem
Title: Senior Vice President
RE Legal Affairs

JOINDER BY MCD LANDLORD

The undersigned, ARE-Maryland No. 45, LLC, a Delaware limited liability company, hereby joins in the execution of the foregoing Lease Agreement solely for the purpose of agreeing to and being bound by the provisions of Section 45 thereof.

MCD LANDLORD:

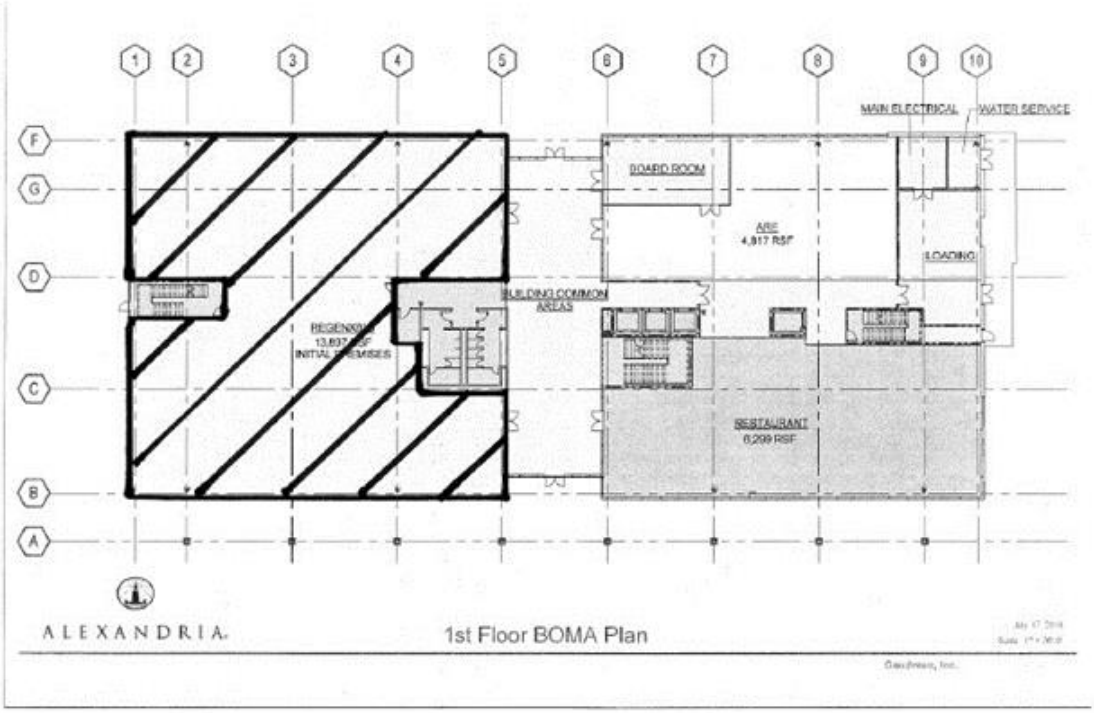
ARE-Maryland No. 45, LLC,
a Delaware limited liability company

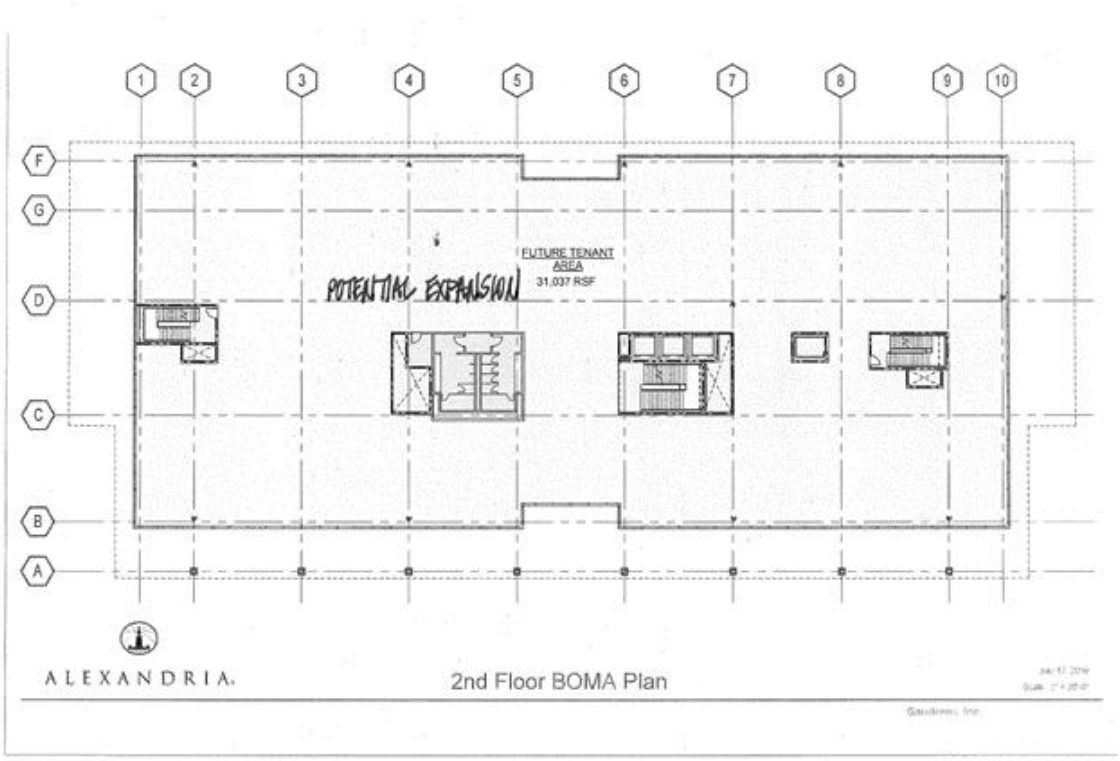
By: Alexandria Real Estate Equities, L.P.,
a Delaware limited partnership,
managing member

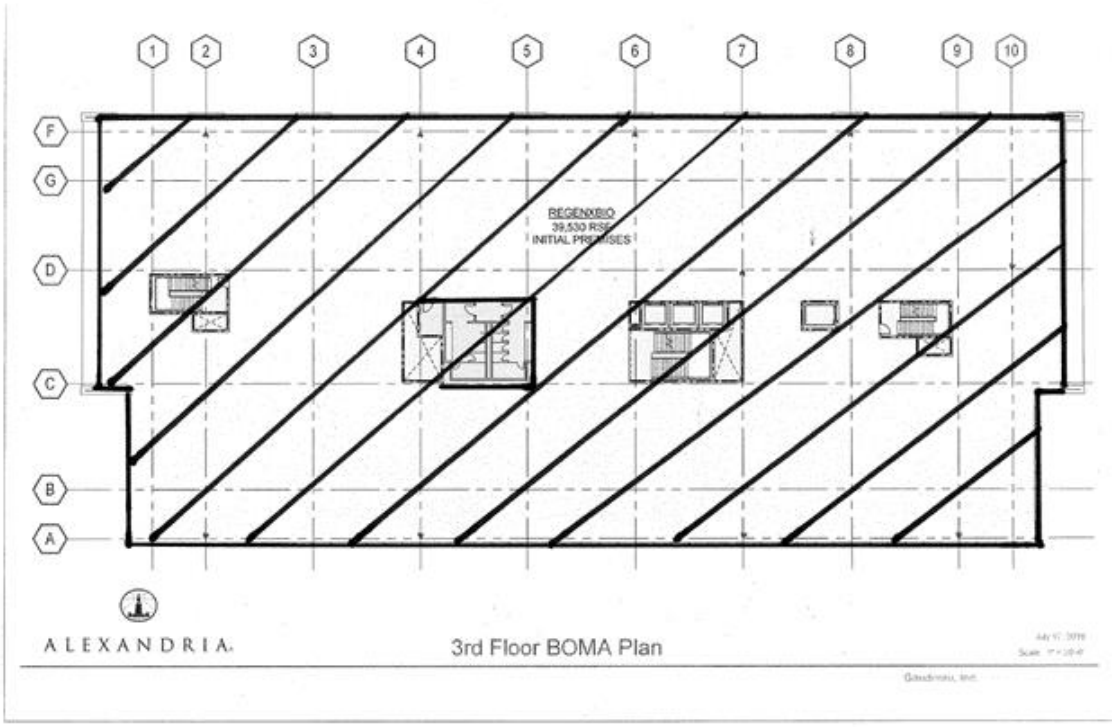
By: ARE-QRS CORP.,
a Maryland corporation,
general partner

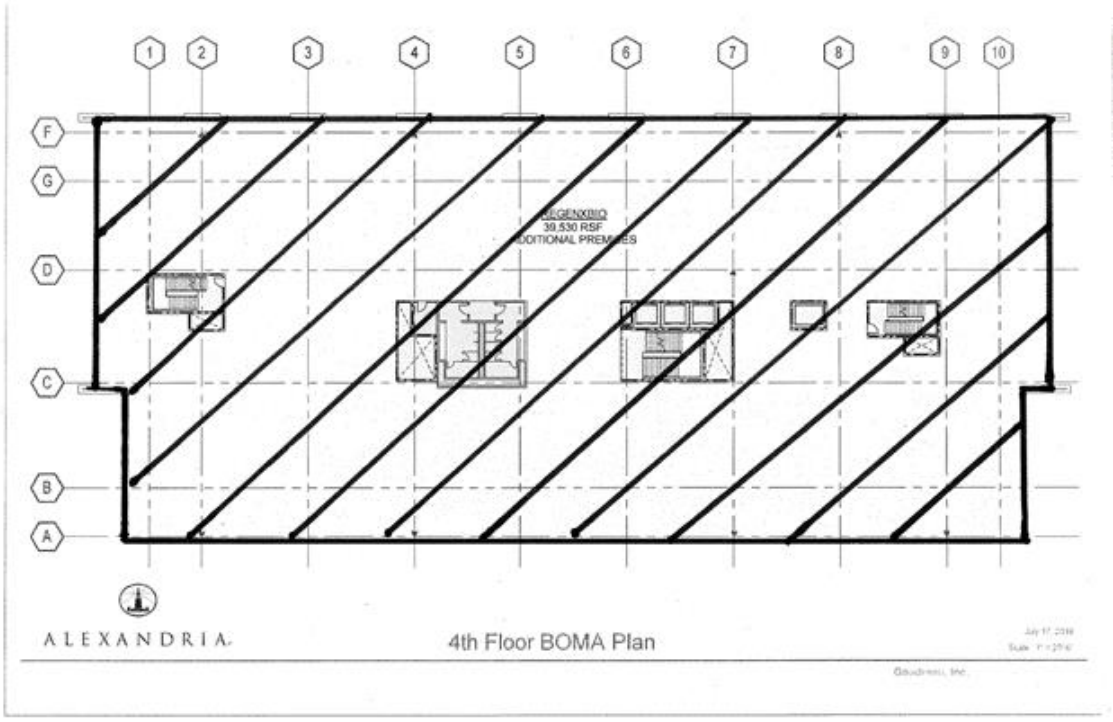
By: /s/ Jackie Clem (SEAL)
Name: Jackie Clem
Title: Senior Vice President
RE Legal Affairs

EXHIBIT A TO LEASE
DESCRIPTION OF PREMISES









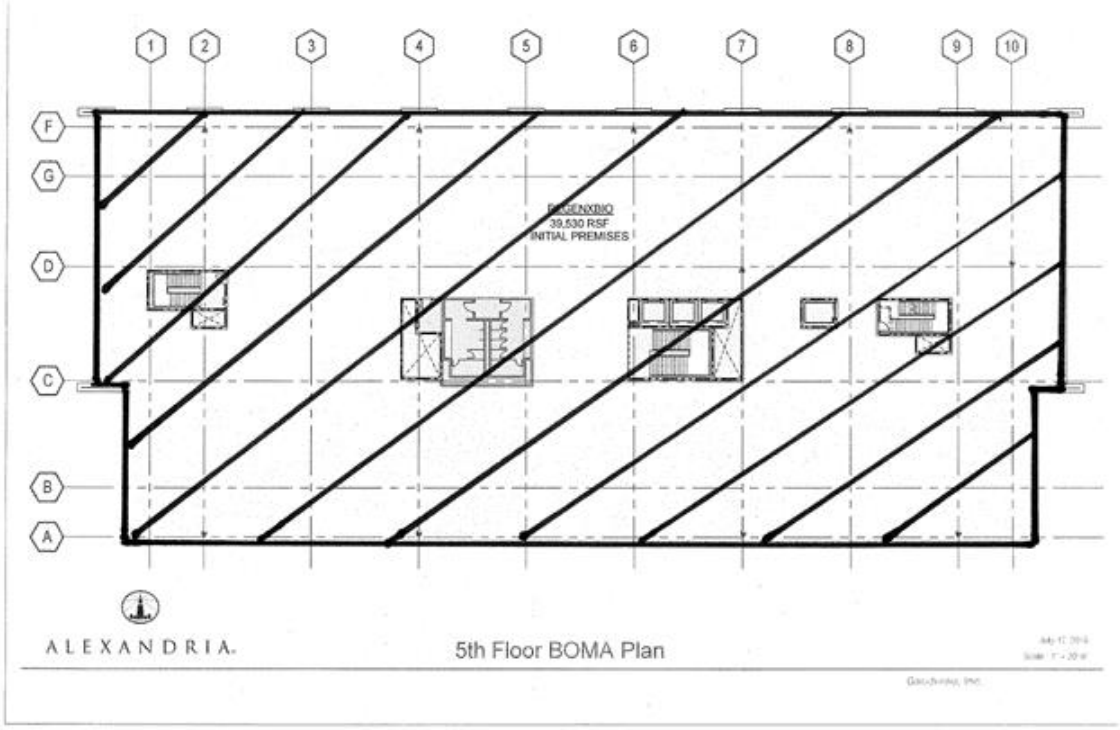


EXHIBIT A-1 TO LEASE
DRAWING SHOWING OUTDOOR PLAZA

EXHIBIT B TO LEASE
DESCRIPTION OF PROJECT

LPA 9800 Medical Center Dr. - Overall Site Illustrative

ALEXANDRIA.

EXHIBIT C-1 TO LEASE
LANDLORD WORK LETTER

WORK LETTER

THIS WORK LETTER FOR BASE BUILDING dated November ___, 2018 (this "**Work Letter**") is made and entered into by and between **ARE-MARYLAND NO. 24, LLC**, a Delaware limited liability company ("**Landlord**"), and **REGENXBIO, INC.**, a Delaware corporation, and is attached to and made a part of the Lease Agreement dated November __, 2018 ("**Lease**"), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

1. **General Requirements**.

a. **Tenant's Authorized Representative**. Tenant designates Jerome Jackson, Vit Vasista, and Patrick Christmas (any such individual acting alone, "**Tenant's Representative**") as the only persons authorized to act for Tenant pursuant to this Work Letter. Landlord shall not be obligated to respond to or act upon any request, approval, inquiry or other communication ("**Communication**") from or on behalf of Tenant in connection with this Work Letter unless such Communication is in writing from Tenant's Representative. Tenant may change any Tenant's Representative at any time upon not less than 5 business days advance written notice to Landlord. Neither Tenant nor Tenant's Representative shall be authorized to direct Landlord's contractors in the performance of the Base Building Work (as defined below).

b. **Landlord's Authorized Representative**. Landlord designates Lawrence J. Diamond, Edward J. Rose, and William DePippo (any such individual acting alone, "**Landlord's Representative**") as the only persons authorized to act for Landlord pursuant to this Work Letter. Tenant shall not be obligated to respond to or act upon any request, approval, inquiry or other Communication from or on behalf of Landlord in connection with this Work Letter unless such Communication is in writing from Landlord's Representative. Landlord may change any Landlord's Representative at any time upon not less than 5 business days advance written notice to Tenant. Landlord's Representative shall be the sole persons authorized to direct Landlord's contractors in the performance of the Base Building Work.

c. **Architects, Consultants and Contractors**. Landlord and Tenant hereby acknowledge and agree that: (i) the general contractor and any subcontractors for the Base Building Work shall be selected by Landlord, subject to Tenant's approval, which approval shall not be unreasonably withheld, conditioned, or delayed, and (ii) Gaudreau, Inc. shall be the architect ("**Base Building Architect**") for the Base Building Work. Tenant hereby approves The Whiting-Turner Contracting Company ("**General Contractor**") as the general contractor for the Base Building Work.

2. **Work to Be Performed by Landlord.**

a. **Base Building Work Defined**. As used in this Work Letter, "**Base Building Work**" means the construction of the fixed and permanent improvements constituting the core and shell of the Building and core Building service components (excluding any service components and the construction of any internal stair(s) between the floors comprising the Premises constituting Tenant Improvements [as defined in the Work Letter attached to the Lease as **Exhibit C-2** ("**Tenant Work Letter**")]), all substantially in accordance with the Basis of Design Report dated June 15, 2017 prepared by Jennerik Engineering, Inc. and attached hereto as **Attachment 1** ("**Basis of Design Report**"), the Final Base Building Design Drawings (as defined in Section 2.b. below), and the Final Base Building Construction Drawings (as defined in Section 2.c. below).

b. **Base Building Design Drawings**. Landlord shall cause the Base Building Architect to deliver to Tenant the schematic drawings, outline specifications, and material selections ("**Initial Base Building Design Drawings**") detailing Landlord's requirements for the Base Building Work by no later than the date set forth in the Base Building Construction Schedule (as defined in Section 2.g below). The Initial Base Building Design Drawings shall be prepared in accordance and consistent with the Basis of Design Report. Not more than 15 business days thereafter, Tenant shall deliver to Landlord the written questions or comments of Tenant with regard to the Initial Base Building Design Drawings. Such questions or comments, if any, shall include a reasonably clear articulation of Tenant's core competencies and operational needs specific to the Premises to the extent not set forth in the Basis of Design Report. In response to those comments that Landlord Reasonably Agrees to Accommodate (as defined below), Landlord shall cause the Base Building Architect to revise the Initial Base Building Design Drawings and shall resubmit the revised Initial Base Building Design Drawings to Tenant for review and comment within 10 days thereafter. Tenant shall then have 5 business days within which to deliver to Landlord written comments detailing the reason(s) why the revisions do not satisfy the requirements set forth in this paragraph. The foregoing process shall be repeated until Landlord addresses Tenant's comments, but the Initial Base Building Design Drawings must be finalized by no later than the date set forth in the Base Building Construction Schedule in order for the Base Building Work to be Substantially Complete by the Target Commencement Date (as defined in the Lease). Any delay in finalizing the Initial Base Building Design Drawings by the date set forth in the Base Building Construction Schedule because of Tenant's failure to timely comply with the response deadlines set forth in the review and comment process described in this paragraph shall constitute a Tenant Delay (as defined in Section 3.d below). The Initial Base Building Design Drawings as so revised are hereinafter referred to as the "**Final Base Building Design Drawings**".

i. For purposes of this Work Letter, "**Reasonably Agrees to Accommodate**" means that Landlord shall use reasonable efforts to accommodate Tenant's requested changes as long as such changes (A) do not materially increase Landlord's cost to construct the Base Building Improvements (unless Tenant agrees to either to pay such increased cost or that the TI Allowance (as defined in the Tenant Work Letter) shall be reduced by the amount of such increased cost), (B) do not materially adversely affect the design of the core and shell of the Building such that the Building will not be able to accommodate future generic laboratory use, (C) solely concern finishes and appearance as long as such finishes and appearance are consistent with the quality and compatible with the overall design of the Project, and (D) do not cause or result in a cumulative delay of more than 120 days (i.e., cumulative delays caused or resulting from the review and comment process described in Sections 2.b and 2.c and any non-Material Changes set forth in Section 2.e) in the Substantial Completion of the Base Building Work by the Target Commencement Date.

c. **Base Building Construction Drawings**. Not later than 75 days after the completion of the Final Base Building Design Drawings, Landlord shall cause the Base Building Architect to prepare and deliver to Tenant for review and comment construction plans, specifications, and drawings for the Base Building Work ("**Initial Base Building Construction Drawings**"). The Initial Base Building Construction Drawings shall be prepared in accordance and consistent with the Final Base Building Design Drawings. Tenant shall deliver its written comments on the Initial Base Building Construction Drawings to Landlord not later than 15 business days after Tenant's receipt of the same. Tenant's comments shall be limited to those matters that are inconsistent with the Final Base Building Design Drawings. Landlord shall evaluate Tenant's comments, if any, and modify the Initial Base Building Construction Drawings so that that the design reflected in the Initial Base Building Construction Drawings is consistent with the Final Base Building Design Drawings. Landlord shall cause the Base Building Architect to revise the Initial Base Building Construction Drawings and shall resubmit the revised Initial Base Building Construction Drawings to Tenant for review and comment within 10 days thereafter. Tenant shall then have 5 days within which to deliver to Landlord written comments detailing the reason(s) why the revisions do not satisfy the requirements set forth in this paragraph. The foregoing process will be repeated until Landlord addresses Tenant's comments, but the Initial Base Building Construction Drawings must be finalized by no later than the date set forth in the Base

Building Construction Schedule in order for the Base Building Work to be Substantially Complete by the Target Commencement Date. Any delay in finalizing the Initial Base Building Construction Drawings by the date set forth in the Base Building Construction Schedule because of Tenant's failure to timely comply with the response deadlines set forth in the review and comment process described in this paragraph shall constitute a Tenant Delay. The Initial Base Building Construction Drawings as so revised (and as modified by any Change Request approved by Landlord pursuant to Section 2.e below) are referred to in this Work Letter as the "**Final Base Building Construction Drawings**." The Final Base Building Construction Drawings shall govern the construction of the Base Building Work subject to any Change Request submitted by Tenant. Subject to the provisions of Section 2.d below, Landlord shall not modify the Final Base Building Construction Drawings except as may be reasonably required and permitted hereunder in connection with the issuance of the Building Permit (as defined in Section 2.f below).

d. **Scope**. Other than the Base Building Work, Landlord shall not have any obligation whatsoever for the finishing of the Building. Landlord shall have the right to make modifications to the Base Building Work, at Landlord's sole cost, as may be necessitated from time to time by Legal Requirements; provided, however, that without Tenant's written consent as specified herein, Landlord shall not make any Landlord Requested Modifications (as defined below) to the Base Building Work. For purposes of this Work Letter, "**Landlord Requested Modifications**" means modifications, other than as may be necessitated from time to time by Legal Requirements, that result in material and adverse change to or impact on (i) the mechanical, electrical, HVAC, or plumbing ("**MEP**") systems or utilities in or serving the Premises, (ii) access to, clearances of, or usable space within the Premises, (iii) the overall design, configuration, and/or appearance of the Building, the Common Areas, and/or the Premises, (iii) the quality of the materials used in the Base Building Work, or (iv) Tenant's use of the Premises for the Permitted Use, including Tenant's core competencies and/or operational needs as set forth in the Basis of Design Report. Tenant's consent shall not be unreasonably withheld, delayed, or conditioned as to Landlord Requested Modifications described in clauses (i), (ii), and/or (iii) of the foregoing definition thereof but may be withheld or conditioned in Tenant's sole and absolute discretion as to Landlord Requested Modifications described in clause (iv) of such definition.

e. **Changes**. Any changes requested by Tenant to the Base Building Work (including those that are inconsistent with the Final Base Building Construction Drawings) shall be requested and instituted in accordance with the provisions of this Section 2.e and shall be subject to the written approval of Landlord. Landlord's approval shall be granted or withheld in its reasonable discretion if such requested changes are not Material Changes (as defined below). If such requested changes are Material Changes, Landlord's approval may be granted or withheld in Landlord's sole discretion. As used herein, a "**Material Change**" shall mean any change to the Base Building Work (except as may be required to comply with any applicable Legal Requirements) that, together with all prior approved Changes or concurrently proposed Changes, would result in (1) a cumulative increase in the cost of the Base Building Work in excess of $2,000,000 or (2) cumulative delays in completing the Base Building Work in excess of 60 days. In no event shall Landlord be required to agree to any Material Changes.

i. If Tenant shall request changes to the Base Building Work ("**Change**"), Tenant shall request the Change by notifying Landlord in writing ("**Change Request**"). The Change Request shall detail the nature and extent of the Change and shall be signed by Tenant's Representative. Landlord shall review, advise Tenant in writing of any additional cost payable by Tenant and/or Tenant Delay from implementing such requested Change, and approve or disapprove the Change Request within 5 business days thereafter (or such additional time, not to exceed an additional 3 business days, as may be reasonably required for such review so long as Landlord notifies Tenant of such additional required time prior to the end of the original 5-business-day period), provided that Landlord's approval shall not be unreasonably withheld or conditioned for Changes to the Base Building Work except if the Change Request would result in or constitute a Material Change or materially conflict with the provisions of Section 2.i below. If Landlord fails to

approve or disapprove a Change Request within such 5 business day (or longer) period, the Change Request shall be deemed approved by Landlord. The Change Request shall state in all capital letters in bold font the following (or a substantially similar statement): "**LANDLORD'S FAILURE TO RESPOND WITHIN 5 BUSINESS DAYS AFTER RECEIPT OF THIS CHANGE REQUEST SHALL CONSTITUTE LANDLORD'S APPROVAL OF THE CHANGE REQUEST,**" and shall be sent to the recipients identified below in accordance with the notice provisions in the Lease:

ARE-Maryland No. 24, LLC
c/o Alexandria Real Estate Equities, Inc.
385 E. Colorado Blvd., Suite 299
Pasadena, CA 91101
Attention: Corporate Secretary

Mr. Lawrence J. Diamond
Co-Chief Operating Officer
Regional Market Director- Maryland
Alexandria Real Estate Equities, Inc.
946 Clopper Road
Gaithersburg, MD 20878

Kevin L. Shepherd, Esquire
Venable LLP
Suite 900
750 East Pratt Street
Baltimore, MD 21202

Within 3 business days after Tenant's receipt of Landlord's written advice of any additional cost payable by Tenant and/or Tenant Delay from implementing such requested Change approved by Landlord, Tenant may, by written notice to Landlord, withdraw the Change Request in question. In case of a Material Change or a Change that conflicts with the provisions of Section 2.i below, Landlord may withhold its approval to the Change Request in Landlord's sole discretion. Any delay in the completion of the Base Building Work caused by a Change Request (including any Change Request withdrawn by Tenant after approval thereof by Landlord), including any reasonably required suspension of the Base Building Work while any such Change is being evaluated and/or designed, shall constitute a Tenant Delay.

ii. Except as provided in Section 2.e.i above, in no event shall Landlord be required to implement any modifications to the Base Building Work or the Final Base Building Construction Drawings, including, without limitation, any modifications that would result in a delay to the Base Building Construction Schedule. Tenant shall be solely responsible for all costs and expenses incurred by Landlord to modify the Base Building Work (including, without limitation, Changes of any work thereon then in progress or completed), the Final Base Building Construction Drawings, or the Final Base Building Design Drawings as a result of any Change Requests. Any delay in the Base Building Construction Schedule to the extent arising from any Changes to the Final Base Building Construction Drawings requested by Tenant as set forth in this Work Letter (including, without limitation, any resultant Changes as may be required to the Final Base Building Design Drawings, the Final Base Building Construction Drawings, and/or any suspension of the Base Building Work while any such Changes are being evaluated, designed, and/or constructed) shall constitute a Tenant Delay. To the extent that completion of the Base Building Work shall have been actually delayed, any delay by Tenant in reviewing, revising, or approving plans and specifications beyond the periods set forth herein shall constitute a Tenant Delay. If Tenant approves in writing the cost or savings and the estimated extension in the time for completion of the Base Building Work, if any, Landlord shall promptly cause the approved Change to be implemented. Notwithstanding any approval or disapproval by Tenant of any estimate of the delay caused by such proposed Change, the Base Building Architect's reasonable and good faith determination of the actual amount of Tenant Delay in connection with the Change shall be binding on Landlord and Tenant.

f. **Commencement of Base Building Work**. Landlord shall commence construction of the Base Building Work from and after the Commencement Date upon obtaining a building permit ("**Building Permit**") authorizing the construction of the Base Building Work consistent with the Final Base Building Construction Drawings. If any Governmental Authority having jurisdiction over the construction of the Base Building Work or any portion thereof shall impose terms or conditions on the construction thereof that: (i) are materially inconsistent with Landlord's obligations hereunder, (ii) materially increase the cost of constructing the Base Building Work, or (iii) will materially delay the construction of the Base Building Work, Landlord may seek means by which to mitigate or eliminate any such adverse terms and conditions, so long as such mitigation or elimination (or the seeking thereof) shall not materially delay the Substantial Completion of the Base Building Work or result in any Landlord Requested Modifications (other than as may be necessitated by Legal Requirements).

g. **Schedule for Base Building Work**. The Base Building Construction Schedule is attached as Rider 1 to this Work Letter ("**Base Building Construction Schedule**"). The Base Building Construction Schedule contains certain assumptions on which it is based. If the actual conditions or circumstances deviate from such assumptions, Landlord may from time to time reasonably adjust the Base Building Work Schedule in a manner consistent with such deviation and shall promptly notify Tenant of any material adjustment, provided that such adjustment does not change the Target Commencement Date.

h. **No Material Delay**. Landlord has advised Tenant that it is critically important to Landlord's business operations that the Base Building Work be Substantially Completed by the Target Commencement Date and that delays, if any, in achieving that objective not be material. Accordingly, notwithstanding any contrary provision contained in this Work Letter, Tenant specifically acknowledges that in no event whatsoever shall the review and comment processes described in Sections 2.b and 2.c and any request for non-Material Changes set forth in Section 2.e cause or result in a cumulative delay in the Substantial Completion of the Base Building Work of more than 120 days beyond the Target Commencement Date.

i. **Performance and Substantial Completion of Base Building Work**. Promptly after the date of the Final Base Building Construction Drawings, Landlord shall (i) obtain the Building Permit and (ii) Substantially Complete, or cause to be Substantially Completed (as such terms are defined in this section), the Base Building Work in a good and workmanlike manner, at Landlord's sole cost and expense (except as otherwise provided herein), in compliance with all applicable Legal Requirements (as defined in the Lease), and in accordance with the Final Base Building Construction Drawings subject to Minor Variations (as defined below) and normal punch list items of a non-material nature that do not interfere with Tenant's lawful, safe, and secure access to and occupancy and use of the Premises for the performance of the Tenant Improvements (as defined in the Tenant Work Letter), on or before the Target Commencement Date, i.e., the target date for Substantial Completion of the Base Building Work as set forth in the Base Building Construction Schedule. The Target Commencement Date shall be extended on a day-for-day basis for each day of any and all delays due to Force Majeure ("**Force Majeure Delays**") and Tenant Delays. As soon as reasonably possible after the date of Substantial Completion, Landlord's Authorized Representative and Tenant's Authorized Representative shall jointly inspect the Base Building Work and prepare a punchlist. The punchlist shall list: incomplete, minor, or insubstantial details of construction; necessary mechanical adjustments; and needed finishing touches. Landlord shall promptly undertake and diligently complete, or cause to be completed, all punchlist items, and shall use reasonable efforts to complete, or cause to be completed, all punchlist items within 30 days after the creation of the punchlist. Upon such completion, Landlord's Authorized Representative shall notify Tenant's Authorized Representative thereof, and such parties shall, as soon as reasonably possible thereafter, jointly re-inspect the Base Building Work to confirm such completion and, if needed, prepare a punchlist of any items remaining to be completed (which Landlord shall promptly undertake and diligently complete, or cause to be completed). For the purpose of this Work Letter, (A) "**Substantial Completion of the Base Building Work**" means the date on which all of the following shall have occurred: (1) execution of a Certificate of Substantial Completion by the Base Building Architect and general contractor for the Base Building Work

in the form of the American Institute of Architects document G704, (2) the issuance of a temporary certificate of occupancy for the Base Building Work by the applicable Governmental Authority, and (3) the date on which the elevators and lobby are substantially complete and available to serve the Premises, so that safe and secure access is available through the lobby of the Building to the elevators, and the lobby and elevator finishes are substantially complete. Completion of punch list items for elevator finishes and lobby finishes shall not be required for Substantial Completion of the Base Building Work, provided that Landlord shall use all diligent efforts to complete the same within 60 days after Substantial Completion of the Tenant Improvements, and (B) "**Minor Variations**" means any modifications reasonably required: (1) to comply with all applicable Legal Requirements and/or to obtain or to comply with any required permit (including the Building Permit); (2) to comply with any Change Request approved or deemed approved by Landlord; or (3) to make reasonable adjustments for field deviations or conditions encountered during the construction of Base Building Work or to comport with good design, engineering, and construction practices provided in each case no Landlord Requested Modifications are made.

3. **Performance of Base Building Work**.

a. **Selection of Materials**. Where more than one type of material or equipment are denoted as options on the Final Base Building Construction Drawings, the option to be used will be selected by Landlord at Landlord's sole and absolute subjective discretion. As to all building materials and equipment that Landlord is obligated to supply under this Work Letter where the Final Base Building Construction Drawings do not specify the manufacturer, Landlord shall select the manufacturer thereof in its sole and absolute subjective discretion.

b. **Delivery of Premises**.

i. **Turnover Condition**. When the Base Building Work is in Turnover Condition (as defined below), subject to the remaining terms and provisions of this Section 3, Tenant shall have access to the Premises for the performance of portions of the Tenant Improvements as provided herein. Landlord shall continue to work diligently to timely achieve Substantial Completion of the remaining Base Building Work after the Turnover Condition Date (as defined below), which remaining Base Building Work may include that affecting the elevators, permanent power systems, HVAC/MEP systems, and common areas (e.g., restrooms, core areas, and electrical). For purposes of this Work Letter, (A) "**Turnover Condition**" means the date on which Landlord notifies Tenant in writing that the Building is in watertight condition and Tenant may (but shall not be obligated to), in the interest of time, enter the Premises to begin the performance of that portion of the Tenant Improvements (as defined in the Tenant Work Letter) consisting of MEP/Fire Protection rough-in work, and (B) "**Turnover Condition Date**" means the date on which Landlord notifies Tenant that the Base Building Work is in Turnover Condition. For the avoidance of doubt, the Turnover Condition Date is not synonymous with the Lease Commencement Date, i.e., the date of Substantial Completion of the Base Building Work. If Tenant so elects to enter upon the Premises on or after the Turnover Condition Date and prior to the date of Substantial Completion of the Base Building Work, Landlord and Tenant shall (and shall cause their respective agents, employees and contractors to) coordinate with each other so as to facilitate and not interfere with their respective work being performed in the Premises during such period.

ii. **Substantial Completion**. Tenant's acceptance of the Premises on the date of Substantial Completion shall not constitute a waiver of: (i) any warranty with respect to workmanship (including installation of equipment) or material (exclusive of equipment provided directly by manufacturers), (ii) any non-compliance of the Base Building Work with applicable Legal Requirements, or (iii) any claim that the Base Building Work was not completed substantially in accordance with the Final Base Building Construction Drawings (subject to Minor Variations and such other changes as are permitted hereunder) (collectively, a "**Construction Defect**"). Tenant shall have one year after Substantial Completion of the Base Building Work within which to notify Landlord of any such Construction Defect discovered by Tenant, and Landlord shall use reasonable efforts to remedy or cause the responsible contractor to remedy any such Construction Defect within 30 days thereafter. If the applicable contractor, despite Landlord's reasonable efforts, fails to remedy such Construction Defect within such 30-day period, Landlord shall promptly engage another contractor to perform the corrective work, at Landlord's sole cost and expense and, at Tenant's request, Landlord shall cooperate with Tenant should Tenant elect to pursue a claim against the responsible contractor.

c. **Warranties**. Landlord shall obtain from the General Contractor a warranty of the Base Building Work against defects in materials and workmanship for a period of 1 year from the Lease Commencement Date. In addition, Landlord (or the General Contractor on behalf of Landlord) shall obtain from each manufacturer of equipment installed as part of the Base Building Work, a warranty of such equipment for the then-applicable industry-standard warranty period for such equipment. Tenant shall be entitled to receive the benefit of all construction warranties and manufacturer's equipment warranties relating to equipment installed in the Premises. If requested by Tenant, Landlord shall attempt to obtain extended warranties from manufacturers and suppliers of such equipment, but the cost of any such extended warranties shall be borne solely out of the TI Allowance (as defined in the Tenant Work Letter).

d. **Lease Commencement Date Delay**. Except as otherwise provided in the Lease, Delivery of the Premises shall occur when the Base Building Work has been Substantially Completed, except to the extent that completion of the Base Building Work shall have been actually delayed by any one or more of the following causes ("**Tenant Delay**"):

i. Tenant's Representative was not available to give or receive any Communication or to take any other action required to be taken by Tenant hereunder, including, but not limited to, timely completing and submitting the documentation relating to the plumbing authority (or comparable) permit described in Section 3(a) of the Tenant Work Letter or meeting with Landlord and WSSC personnel as requested pursuant to Section 3(a) of the Tenant Work Letter;

ii. Tenant's Change Requests whether or not any such Change Requests are actually performed;

iii. Construction of any Changes approved or deemed approved by Landlord;

iv. Tenant's request for materials, finishes or installations requiring unusually long lead times that are so identified by Landlord to Tenant in writing when the Final Base Building Construction Drawings and/or any Changes specifying same are approved by Landlord;

v. Tenant's delay in reviewing, revising, or approving plans and specifications beyond the applicable periods set forth herein;

vi. Tenant's delay in providing information critical to the normal progression of the Building. Tenant shall provide such information as soon as reasonably possible, but in no event longer than one week after receipt of any request for such information from Landlord;

vii. Tenant's delay in making payments to Landlord for Excess TI Costs; or

viii. Any other act or omission by Tenant or any Tenant Party (as defined in the Lease), or persons employed by any of such persons.

If Delivery is delayed for any of the foregoing reasons, then Landlord shall cause the Base Building Architect to certify the date on which the Base Building Work would have been completed but for such Tenant Delay and shall provide such certification to Tenant by written notice, and such certified date shall be the date of Delivery, subject to Tenant's right to dispute reasonably in good faith any Tenant Delay claimed by Landlord, by written notice to Landlord given within 30 days after Tenant's receipt of the Base Building Architect's certification thereof.

4. **Tenant Access**.

a. **Tenant's Access Rights**. Landlord hereby agrees to permit Tenant, Tenant's Representatives, and any of Tenant's architects, engineers, and/or contractors access, at Tenant's sole risk and expense, to the Building prior to the Turnover Condition Date, to inspect and observe the Base Building Work in process; all such access shall be during normal business hours or at such other times as are reasonably designated or approved by Landlord. Notwithstanding the foregoing, Tenant, Tenant's Representatives, and any of Tenant's architects, engineers, and/or contractors shall have no right to enter onto the Premises or the Building unless and until Tenant shall deliver to Landlord evidence reasonably satisfactory to Landlord demonstrating that any insurance that Landlord may require pursuant to the Lease is in full force and effect. Any entry by Tenant, Tenant's Representatives, and any of Tenant's architects, engineers, and/or contractors shall comply with all reasonable and established safety practices of Landlord's contractor and Landlord until completion of the Base Building Work and acceptance thereof by Tenant.

b. **No Interference**. Neither Tenant nor any Tenant Party shall interfere with the performance of the Base Building Work, nor with any inspections or issuance of final approvals by applicable Governmental Authorities, and upon any such interference, Landlord shall have the right to exclude Tenant and any Tenant Party from the Premises and the Project until the Turnover Condition Date.

c. **No Acceptance of Premises**. The fact that Tenant may enter into the Project on and after the Turnover Condition Date for the purpose of performing the Tenant Improvements shall not be deemed an acceptance by Tenant of possession of the Premises or the Delivery of the Premises, but in such event Tenant shall defend with counsel reasonably acceptable by Landlord, indemnify and hold Landlord harmless from and against any loss of or damage to Tenant's property, completed work, fixtures, equipment, materials or merchandise, and from liability for death of, or injury to, any person, caused by the act or omission of Tenant or any Tenant Party.

5. **Miscellaneous**.

a. **Consents**. Whenever consent or approval of either party is required under this Work Letter, that party shall not unreasonably withhold, condition or delay such consent or approval, unless expressly set forth herein to the contrary.

b. **Modification**. No modification, waiver or amendment of this Work Letter or of any of its conditions or provisions shall be binding upon Landlord or Tenant unless in writing signed by Landlord and Tenant.

RIDER 1 TO EXHIBIT C-1
Base Building Construction Schedule

The Base Building Construction Schedule set forth in the table below is based on the Commencement Date occurring on or before November 1, 2018. If the Commencement Date occurs after November 1, 2018, the projected dates below shall be automatically extended one day for each day after November 1, 2018 until the Commencement Date occurs.

Milestone Event	Projected Date
Base Building Design Drawings sent to Tenant for comment	November 30, 2018
Deadline for completing Final Base Building Design Drawings	December 18, 2018
Deadline for completing Final Base Building Construction Drawings	March 29, 2019
Base Building Permit issued	April 30, 2019
Landlord begins performance of Base Building Work	May 31, 2019
Completion of erection of structural steel for Base Building	January 31, 2020
Turnover Condition Date (i.e., date on which Building is watertight)	March 31, 2020
Substantial Completion of Base Building Work	June 30, 2020

ATTACHMENT 1
BASIS OF DESIGN REPORT

JENNERIK ENGINEERING, INC.
8833 D BELAIR RD, NOTTINGHAM, MD 21236
PH 410.870.1300 EMAIL INFO@JENNERIKINC.COM

B A S I S O F D E S I G N

R E P O R T

Speculative Lab/ Office Facility
9800 F Medical Center Drive
Montgomery County, MD

Prepared by: JennERIK Engineering, Inc.

Issued For: Schematic Design

Date: June 15, 2017

Table of Contents

I. HVAC PERFORMANCE CRITERIA

A. INTENT

The performance criteria are intended to define the level of performance of the HVAC system. The parameters used herein shall form the basis of the HVAC system design, equipment selection and system sizing.

B. GENERAL PROJECT DESCRIPTION

The project includes a new five story shell building including a four level garage as delineated in the architectural package. The garage is an open design (no mechanical ventilation).

The building is planned to accommodate multiple lab/ office tenants with a 50-50 mix of office to lab area. The labs are anticipated to have a moderate level of chemical fume hoods; one 6 feet hood per two lab modules.

The project will be LEED certified (Silver minimum). Provide LEED documentation in accordance with the LEED scorecard.

C. CODES AND STANDARDS

The engineering calculations are based on the latest recommendations of ASHRAE and good engineering practices consistent with industry practice.

The codes applicable to the design are as follows:

- Montgomery County Code Amendments
- NC LEED Standards – LEED Silver or Gold
- 2015 International Building Code
- 2015 International Mechanical Code
- 2015 International Plumbing Code
- 2015 International Energy Conservation Code
- 2015 International Fire Code with State of Maryland and Montgomery County Amendments
- Latest National Fire Protection Association (NFPA)
- 2014 National Electric Code

The standards applicable to the design are as follows:

- American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) handbooks
- American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) 90.1 Energy Standard
- Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
- American Society of Mechanical Engineers (ASME)

D. OUTDOOR DESIGN PARAMETERS

The following parameters will be used for the HVAC system:

1.	Altitude (above sea level):	154 ft
2.	Latitude:	39.2 N
3.	Location:	Rockville, Maryland
4.	Outside design temperature and humidity conditions (from 2009 ASHRAE Fundamentals Handbook):	

Lab and Lab Support Areas

a)	Cooling dry bulb and coincident wet bulb	94°F DB/78°F WB
b)	Heating Dry Bulb	10°F DB

Administrative and Support Areas

c)	Cooling dry bulb and coincident wet bulb	92°F DB/75°F WB
d)	Heating Dry Bulb	13°F DB

E. BUILDING ENVELOPE CONSTRUCTION

1. U Values (Btu/hr-ft²-°F)

Walls – METAL FRAMED	0.048 (R-13 + R7.5 CI equivalent)
Roof – ABOVE DECK	0.025 (R-40 CI equivalent)
Glass (double glazed- FIXED)	0.33 max U Value ;
Skylights (single glazed)	N/A

2. Glass Solar Factors (SHGC)

Glass	0.34 max
Skylights	N/A

F. AIR LEAKAGE TEST

The building envelope will undergo a leakage test in accordance with ASTM E779 at a pressure differential of 0.3 inch water gauge with test threshold of a maximum 0.40 CFM/ft2 leakage rate.

G. REDUNDANCY

The outdoor air systems will have partial redundancy via multiple refrigeration circuits and/ or via multiple units manifolded together. Future tenant exhaust systems will also likely include manifolded pairs of exhaust fans.

The cooling tower will have partial redundancy by way of having two cells.

The condenser water loops (tower open loop and building closed loop) will share a common stand by pump.

The condenser water boilers will include partial redundancy by way of two boilers sized at 2/3 building capacity each.

No other mechanical system redundancy is planned.

H. INDOOR DESIGN CRITERIA

INDOOR DESIGN CONDITIONS				
ROOM NAMES OR TYPES	INDOOR CONDITIONS			
	SUMMER		WINTER	
	TEMP	RELATIVE HUMIDITY	TEMP	RELATIVE HUMIDITY
Café and Fitness	75.0 +/-3.0ºF	70% max	70.0 +/-3.0ºF	n/a
Kitchens	80.0 +/-5.0ºF	75% max	70.0 +/-3.0ºF	n/a
Office Areas and Support Areas	75.0 +/-3.0ºF	70% max	70.0 +/-3.0ºF	n/a
Lab Areas	72.0 +/-3.0˚F	60% max (50% design)	72.0 +/-3.0˚F	n/a
Lobbies & Corridors	78.0 +/-3.0ºF	70% max	70.0 +/-3.0oF	n/a
Utility, EMR, and Mechanical Areas	80.0 +/-10.0oF	n/a	65.0 +/-10.0oF	n/a

Notes:

1. No relative Humidity (RH) control is provided unless noted otherwise.
2. Where temperature ranges are indicated, the system shall be capable of maintaining the indicated temperature the rooms where thermostats are located.

3. Where relative humidity (RH) is listed with a maximum and minimum, the system shall be capable of maintaining a relative humidity condition within this range over the entire year. Dehumidification control is provided for these spaces.

I. VENTILATION CRITERIA

VENTILATION CRITERIA						
Room Name	Occupancy Type (Per 2015 IMC)	Occupancy Density (people/1,000 sqft)	Minimum Outside Air		Exhaust Air	
			cfm/person	cfm/sqft	cfm	cfm/sqft
Labs	Special	Per owner	15	To meet pressures(0.03 in. w.c design for ORs; 50 CFM across doors for labs)	n/a	To meet pressures
Conference Rm	Conference Rm	50	5	0.06	n/a	n/a
Café	Dining	100	7.5	0.18	n/a	n/a
Offices	Office	5	5	0.06	n/a	n/a
Fitness	Health/ Weights	10	20	0.06	n/a	n/a
Break Rm	Office	5	5	0.06	n/a	n/a
Lobby	Lobby	10	5	0.06	n/a	n/a
Corridors	Corridor	n/a	n/a	0.06	n/a	n/a
Mail Room	Office	5	5	0.06	n/a	n/a
Storage Rooms	Warehouse	n/a	n/a	0.06	n/a	n/a
Mechanical Room	Warehouse	n/a	n/a	0.06	n/a	n/a
Data/I.T. Room	Warehouse	n/a	n/a	0.06	n/a	n/a
Telephone Room	Warehouse	n/a	n/a	0.06	n/a	n/a
Electrical Room	Warehouse	n/a	n/a	0.06	n/a	
Elevator Machine Room	Warehouse	n/a	n/a	0.06	n/a	n/a
Janitor Closet	Unassigned	n/a	n/a	n/a	75 per mop sink	1
Restroom	Restroom	n/a	n/a	n/a	50/70 per fixture	2

VENTILATION CRITERIA						
Room Name	Occupancy Type	Occupancy Density	Minimum Outside Air		Exhaust Air	
Parking Garage	Enclosed Garage	n/a	n/a	n/a	n/a	0.75

Notes:

1. Ventilation rates are based upon the 2015 International Mechanical Code.

J. OCCUPANT HEAT LOAD CRITERIA

OCCUPANT HEAT GAIN CRITERIA		
Room Name	Activity Level	Note
Cafe	1	1
Kitchen	3	1
Corridors	n/a	1
Lobby	n/a	1
Fitness	5	1
Mail Room	2	1
Offices	2	1
Common Area	2	1
Lab	2	1
Data/I.T. Room	n/a	1
Electrical Room	n/a	1
Elevator Machine Room	n/a	1
Janitor Closet	n/a	1
Mechanical Room	n/a	1
Toilet Rooms Public	n/a	1
Storage Rooms	n/a	1
Parking Garage	n/a	1

Notes:

1. Activity level heat gain (btu/h) is defined as follows:

Level	Activity		Sensible		Latent
1	Seated, very light work		245		155
2	Office work	250		200	
3	Sedentary work		275		275
4	Light work	275		475	
5	Heavy Work	580		870	

K. EQUIPMENT AND LIGHTING HEAT GAIN CRITERIA

EQUIPMENT AND LIGHTING HEAT GAIN CRITERIA				
Room Name	Equipment Heat Gain		Lighting Heat Gain (Watts/Ft²)	Note
	Plug Load (Watts/Ft²)	Specific Equipment (Watts)		
Cafe	2	0	1	
Labs	6	n/a	1.2	
Corridors	-	n/a	1.0	
Lobby	0.5	n/a	2.0	
Fitness	1.0	TBD	1.5	
Mail Room	1.0	n/a	1.5	
Offices	1.5	n/a	1.0	
Common Area	1.0	n/a	1.5	
Data/I.T. Room	80 w/sqft	n/a	1.5	1
Electrical Room	50 W/sqft	n/a	1.0	1
Elevator Machine Room	6.0	n/a	1.0	1
Janitor Closet	-	n/a	1.0	
Mechanical Room	-	TBD	1.5	
Toilet Rooms Public	-	n/a	1.5	
Storage Rooms	-	n/a	1.0	
Parking Garage	-	n/a	0.75	

Notes:

1. Final cooling load calculations shall be performed using data supplied by the manufacturer of the equipment within the room. The plug load listed is preliminary to serve as a basis of design.

L. AIRSIDE SYSTEM DESIGN STANDARDS

Equipment and terminal units shall be sized using the following criteria:

Service	Maximum velocity (FPM)
Relief or exhaust air louvers (Free area)	750 fpm
Outside air intake louvers (Free area)	500 fpm
Filters (AHU or duct mounted)	500 fpm (450 for 100% OA)
Heating coils	800 fpm
Cooling coils	550 fpm (450 for 100% OA)
Fan outlets	1500-3500 fpm

HVAC ductwork shall be sized using the following maximum velocity criteria:

System	Maximum velocity (FPM)
Constant volume air systems (CAV) – supply air	2000 fpm
Variable volume air systems (VAV) – supply air	2500 fpm
CAV and VAV systems – return air mains	1800 fpm

HVAC ductwork shall be sized using the following maximum friction loss criteria:

System	Friction loss
VAV supply air mains and risers	0.25 inch wc/100 ft
CAV supply air mains and risers	0.15 inch wc/100 ft
CAV return air mains and risers	0.1 inch wc/100 ft
Supply air duct downstream of VAV box	0.1 inch wc/100 ft

M. HYDRONIC SYSTEM DESIGN STANDARDS

Hydronic piping shall be sized using the following criteria:

HYDRONIC PIPE SIZING TABLE			
Pipe size (in)	**Maximum flow (GPM)**	**Maximum velocity (FPS)**	**Maximum pressure drop (ft wc/100ft pipe)**
3/4	5	3.30	7.30
1	8	3.10	4.60
1-1/4	15	3.80	5.00
1-1/2	23	4.60	4.00
2	50	5.20	5.00
2-1/2	90	6.00	6.00
3	140	6.00	4.70
4	320	8.00	5.70
6	900	10.00	5.20
8	1,600	10.00	3.80

Notes:

1. Mains sized at up to 15 FPS for variable flow systems based on operating at peak design conditions for less than 2000 hours per year (per ASHRAE).

II. HVAC SYSTEM DESCRIPTION

A. INTRODUCTION

1. The HVAC system is designed to support the entire shell building as delineated in the architectural package. The garage is an open structure; therefore, no HVAC is planned for the garage. The core areas will be entirely fit out. Shell systems will be provided to accommodate the building fit out. Shell systems include a condenser water loop including risers with floor by floor connections to serve tenant heat pumps, central core water source heat pumps (sized for typical office use only) and treated outdoor air systems sized for 50-50 office/ lab fit out. Tenant exhaust air risers are planned but will be installed as part of the future tenant improvement (TI) projects.

2. The HVAC system will consist of a central plant located in a Mechanical Room on the roof level. This Mechanical Room will house the boilers, pumps, heat exchanger, etc. for the water source heat pump system. The cooling tower will be located on the roof. The condenser water piping will be routed from the roof mechanical room to a pair of central risers which will connect the core heat pumps as well as capped valved connections for future tenant heat pump equipment. The condenser loop will also be available for future tenant water cooled lab equipment.

3. The building will be fit out with a combination of vertical and horizontal water source heat pumps per floor to accommodate the various tenant fit outs in the future.

4. The lobby will be provided with a fully ducted 5 ton water source heat pump to be located above the first floor ceiling. The unit will also receive outdoor air via the fresh air risers.

5. The building's outdoor air will be pre-treated via multiple central 100% outdoor air packaged rooftop units (one unit as marked "office use" will have with a heat recovery section). The units will be DX cooling and gas fired heat and will be rated to operate with variable air flow. These units will also provide proper building pressurization. Each of the units will be rated for 23,000 CFM. The units will be set up to supply neutral air to the building's water source heat pumps as well as directly to some spaces such as toilet rooms and corridors. They will also provide shell building temporary freeze protection heating.

6. The tenant areas will be provided with valved and capped condenser water connections for future tenant fit-out water source heat pumps.

7. Core toilet rooms will be served by the 100% outdoor air systems.

8. Cafe (kitchen) exhaust and make up air is planned to be via a roof mounted exhaust fan and make up air fan to be provided under the future café fit out work.

9. The data rooms will be served by a ceiling mounted exhaust fan for heat removal of computer and switching equipment.

10. The support spaces, including Fitness, Mail, Lobbies, etc…, will be served by horizontal, ceiling mounted water source heat pumps with distribution ductwork and air devices.

11. The building will be provided with a direct digital automatic temperature control system. The system will be an open protocol web based system.

B. CENTRAL WATER SOURCE HEAT PUMP PLANT

1. A dual-cell, 600 ton cooling tower will be provided to cool the water source heat pump condenser loop. The tower shall be roof mounted. The cooling tower water piping shall be routed from the roof to the roof level main mechanical room.

2. In order to provide heat to the water source heat pump loop, (2) natural gas fired, condensing type auxiliary boilers and pumps will be provided. Each boiler shall be sized for 1,500 MBH output (each).

3. The water source heat pump loop shall be provided with a 2000 GPM plate and frame heat exchanger and (3) 2000 GPM base mounted, end suction pumps.

4. Two 8" condenser water risers with a 4" loop and (4) sets of 2 ½" valves at each floor level will be provided.

5. A chemical treatment water system consisting of a corrosion inhibitor and biocides with a conductivity sensor and control panel will be provided for year round automatic cooling tower and water source heat pump condenser loop water treatment. A side stream solids separator will be provided for the cooling tower loop.

6. Provide vent flue and combustion air intake systems for the auxiliary boiler with sidewall terminations. Flues and intakes shall be PVC or other material as allowed by the boiler manufacturer.

C. AIR DISTRIBUTION SYSTEMS

1. The entire building will be air-conditioned via water source heat pumps. The fitness center will be a horizontal unit. Tenant fit out will be via new heat pumps to be either floor or above ceiling mounted in the tenant spaces. Each unit shall be a ducted system including supply, return and outdoor air ductwork (where required), air devices, volume dampers, etc… for a complete and operable system. Console type water source heat pumps shall be provided for entries vestibule. The heat pumps shall be as manufactured by Mc Quay or approved equal with R-410a refrigerant. Heat pump sizes shall be as follows:

Area Served	Floor	Qty.	Tonnage (Each)	Type
Entry Vestibule	First	1	1.0	Console
Lobby	First	1	5.0	Vertical
Fitness	First	1	5.0	Horizontal
Maintenance	First	2	2	Horizontal
EMR or shaft	1st	4	2.0	Console

2. Ventilation for the building will be provided via multiple 100% packaged outdoor air rooftop units (one with wheel type heat recovery section). The unit will include an exhaust fan section to capture the heat from common exhaust. Four units each sized for 23,000 CFM shall be provided.

3. Each supply air shaft penetration shall be provided with a combination fire/smoke damper. Exhaust shaft penetrations shall be provided with sub-duct arrangements or with combination fire/ smoke dampers at each penetration.

4. Public toilet rooms shall be provided with a roof mounted centrifugal exhaust fan with associated ductwork, air devices, volume dampers, etc… Exhaust fans shall be sized for 5,000 CFM.

5. Provide the roof mechanical room with a temperature controlled ventilation system sized for 2,000 CFM.

6. Provide a 1,000 CFM general exhaust system for the loading dock/ maintenance area.

7. Provide (6) horizontally mounted 20 feet throw Air Pear fans in the Fitness Center.

8. Provide each elevator shaft with a 6” round exhaust vent for venting hydraulic machine vent to the outside.

9. Provide each elevator shaft with a temperature controlled 6 ft2 relief lover with motor operated damper.

10. The building generator will be gas fired and located on grade – no exhaust piping extension is planned.
11. The parking garage shall be open air and therefore will not require mechanical ventilation.
12. Square supply air devices in common and public areas shall be Titus Model TDC, louvered face with opposed blade dampers. Air devices shall be steel except in Kitchen and Shower areas where they shall be aluminum.
13. Return air devices in common and public areas shall be Titus Model 350F linear bar type devices with opposed blade dampers. Exhaust air devices shall be the same except without the opposed blade damper. Air devices shall be steel except in Shower areas where they shall be aluminum.

D. SUPPLEMENTAL AREAS

1. The mechanical, electrical and elevator machine rooms will be conditioned using a water source heat pump located in the areas served for adjacent to the areas served where the equipment cannot be located in the space by Code.
2. Provide a non-heated air curtain over each loading dock door.
3. Recessed wall and/or ceiling cabinet unit heaters shall be provided at entries, vestibules and in stair towers to offset infiltration heat loss at doors.

E. CONTROLS

1. A direct digital control system (DDC) shall be implemented for the central plant including the cooling tower, pumps, common/public space HVAC equipment and ventilation units. The DDC system shall include graphics. The main network panel shall be equivalent to an FX80 planned for expansion to include future tenant fit out work.
2. Common area outdoor air units shall be provided with Bacnet communication cards to communicate to the Bacnet DDC system. Unit temperature controls shall include discharge air control as well as variable airflow.
3. Individual ducted water source heat pumps shall be provide with Bacnet communication cards to communicate to the main building Bacnet system. Each system whall be provide with a space temperature sensor.
4. Provide the lobby with a CO2 space monitor to modulate outdoor airflow form the DOAS units to the return side of the heat pump.
5. The ventilation unit control shall include return or exhaust air control as well as discharge air static pressure control.
6. Each individual controller is independent and if it fails or is removed it will not affect the operation of other controllers on the system.

7. Provide two (2) DDC system work stations with graphic software at locations to be directed by the owner. The system will also be required to have a modem or Ethernet connection for off site connection.

8. Provide alarm connections for all common and public space HVAC systems.

9. The air moving system controllers will also be connected to the fire alarm system. The fire alarm system will over ride the BMS control when the fire alarm system goes into alarm.

10. Each water source heat pump serving a common or public space will be provided with a stand alone electronic controller which shall control the fans and the temperature of the space served. The controller will be mounted adjacent to the unit. The controller will also monitor the status of the fans and the temperature of the space.

11. The BMS control system will have the ability to monitor and gather data from the main HVAC systems including the central plant and the ventilation units. The control system can be programmed now or in the future to use this information to save energy through control strategies above and beyond the minimum required to control space temperature.

F. MATERIALS MATRIX

System	Piping	Fittings	Isolation valves	Check valves
Condenser Water (Over 4")	CUL or Sch 40 Steel	Wrought copper - Propress or Victaulic	BA-1 or BF-1	CV-1
Condenser Water (Up to 4")	PVC – Sch 80	Sch 40 PVC - Glued	BA-1	CV-2/CV-3
Heating hot water (Up to 4")	CUL	Wrought copper - Propress	BA-1	CV-1

Notes:

1. For piping, fittings and valve specifications, see section III, HVAC Methods and Materials.

System	Ductwork	Fittings
HVAC supply, return and general exhaust	Galvanized sheet metal	Galvanized with S&D, TDC or Ductmate joints

Notes:

1. For ductwork and fitting specifications see section III, HVAC Methods and Materials.

III. HVAC METHODS AND MATERIALS

A. GENERAL

1. The mechanical systems will be designed and installed in accordance with the 2015 International Mechanical Code (IMC*)* including any state or Montgomery County amendments.
2. All permits (fees by owner), and inspections will be obtained as required by all legal authorities of work included in these documents.
3. All materials and equipment will be new and will be installed in accordance with industry standards.
4. Submittals will be prepared for all materials and equipment indicating performance data, catalog information, installation details, etc. In addition, some areas will be detailed on shop drawings and used for coordination. All submittals and shop drawings will be reviewed and approved by the design engineer.
5. At the completion of the work, one bound set and 2 disks of operations and maintenance manuals will be provided. These manuals will include equipment performance data, installation details, maintenance and service instructions, parts lists, wiring and controls diagrams.
6. A set of mechanical drawings will be maintained at the job site during construction. These drawings will be kept up to date with all changes and deviations and will be used to prepare a set of record drawings, which will be provided at the end of the project.
7. Coordination will take place with other trades during construction. Any interferences found due to other trades will be brought to the attention of the general contractor or construction manager.
8. Upon completion of the work, and at all times (every day) during the installation, rubbish and debris resulting from the scope of this work will be removed to a location on site provided by the general contractor and the area will be left in a neat, clean and acceptable condition.
9. All equipment and materials furnished and installed under this scope of work will be guaranteed to be free from defects of materials and workmanship for a period of one year after the date of equipment start-up.
10. Any openings required through structural walls, floors and roofs will be identified on block out drawings and provided to the general contractor. All forming, cutting and framing to these openings will be by the general contractor.
11. Architectural access doors required in ceilings and walls will be provided and installed by the General Contractor.
12. Pipe sleeves will be provided where piping passes through walls and floors. Sleeves will be 18 gauge galvanized steel for walls and steel pipe for floors. Fire stop will be provided where the floor or walls are fire rated. Sleeves will be extended 2 inches above the floor in “wet” areas.

B. MATERIALS

1. Supports And Anchors

(a) Single pipe hangers will be malleable iron or carbon steel, adjustable swivel, split ring for pipe sizes up to 1-1/2 inches and carbon steel, adjustable clevis hangers for pipe sizes 2 inches and over.

(b) Multiple or trapeze hangers will be unistrut steel channels with unistrut clamps and all-thread hanger rods and double nuts. Where required, unistrut channels may be replaced with structural steel channels or I-beams to meet structural loading.

(c) Wall supports will be unistrut bolted to the wall with unistrut pipe clamps for pipe sizes up to 3 inches and welded steel brackets and steel clamps for pipe sizes greater than 4 inches.

(d) Vertical pipe will be supported with steel riser clamps for steel pipe and copper riser clamps for copper pipe.

(e) Pre-fabricated pipe inserts and shields will be used for pipes sizes over 2 inches.

(f) Horizontal pipe will be supported with the minimum spacing:

Pipe Size (In.)	Copper Pipe (Ft.)	Steel Pipe (Ft.)	Hanger Diameter (In.)
½”	6’	6’	3⁄8”
¾” to 1”	6’	8’	3⁄8”
1-½” to 1-½”	6’	10’	3⁄8”
2”	10’	10’	3⁄8”
2-½” to 4”	10’	10’	½”
6” to 8”		10’	5⁄8”
10” to 12”		14’	7⁄8”

(g) All piping will be braced in accordance with SMACNA standards for the appropriate seismic hazard level.

(h) Drill-in expansion bolts will be used to support piping from concrete structures.

2. Mechanical Identification

(a) All major equipment will be identified with a laminated plastic nameplate with engraved white letters on a black background. Equipment to be identified will include air handling units, chillers, pumps, fan coil units, boilers, etc.

(b) All exposed piping in equipment rooms, tunnels and service chases will be identified with adhesive pipe markers showing the service and arrow bands for direction of flow per ANSI color standard.

(c) Main valves in equipment rooms will be identified with brass tags attached by chain.

(d) A valve chart will be provided indicating the system and service of each valve identified in Para B.2.(c).

3. Vibration Isolation And Seismic Restraints

(a) Vibration isolation will be provided internally on all air handling unit fans and exhaust fans.

(b) All inertial bases will be concrete filled. The concrete will be provided by the general contractor.

(c) All equipment mounted on spring isolation will be connected to the piping or ductwork with flexible connectors. Piping connectors will be EPDM, twin sphere rated for 145 PSIG at 250ºF or steel braided flexible pipe connectors.

(d) Rooftop equipment is planned to be installed on raised concrete pads installed on structural roof dunnage.

4. Mechanical Insulation

(a) Pipe insulation will be provided on all heating water and exterior cooling tower (condenser water) piping. The insulation will be glass fiber with a k-factor of 0.24 at 75ºF, non-combustible, with a service temperature range of -20ºF to 450ºF.

(b) An all service jacket with integral vapor barrier consisting of white kraft paper with foil face and sealed joints will be used on low temperature services. Fitting covers will be PVC one-piece, pre-molded type.

(c) All insulated exterior piping will be covered with 0.006 inch thick corrugated aluminum jacket.

(d) Pipe insulation thickness will be as follows:

System	Temperature Range (F)	Insulation Thickness (in.) for Nominal Pipe Sizes				
		< 1”	1-¼” to 2”	2-½” to 4”	6”	8” and up
Cooling Tower (Exterior Condenser Water)	40-60	1”	1”	1”	1”	1”
Heating Water	140-200	1-½”	1-½”	1-½”	1-½”	1-½”

(e) Supply and return ductwork located will be insulated with flexible glass fiber duct wrap, 1 inch thick, 3/4 lb/cu.ft. density. The duct wrap will have a foil faced vapor barrier and will be secured to the ductwork. Return ductwork located in a return plenum will not be insulated unless required for acoustic attenuation.

(f) Standard duct liner will be provided for the first 15 feet of ductwork connected to air distribution systems. The liner will be flexible type with a smooth fire-resistant surface with thickness as shown on the plans. Mechanical fasteners will be used for ducts exceeding 24" in height or width.

5. Hydronic Piping And Valves

(a) This specification applies to heating water and condenser water.

(b) Copper pipe sizes up to 4 inch (CUL): Victaulic fittings with steel pipe, ASTM A53, standard weight with grooved ends.

(c) Copper pipe sizes up to 2-1/2” (CUL): Copper pipe, ASTM B88, Type L, hard drawn with Propress fittings. Joints will be made using the Propress compression tool.

(d) Unions will be installed where threaded equipment or valves require removal.

(e) Ball valves (BA-1): Up to 2-1/2 inch, 150 PSI WOG, bronze body, two piece, full port, stainless steel trim, Teflon seats, lever handle, ProPress, threaded or soldered connections.

(f) Butterfly valves (BF-1): 2-1/2 inch and up, iron body, aluminum-bronze disc, EPDM seals, 200 PSI working pressure, lug or grooved ends. Lever handle up to 6 inch, gear operator 8 inch and over.

(g) Check valves (CV-1): Up to 2 inch, Class 125 bronze body, horizontal swing, y-pattern, threaded, grooved, Propress or soldered ends.

(h) Check valves (CV-2): Over 2 inch, Class 125 iron body, horizontal swing, flanged, grooved or Propress ends, bolted bonnet.

(i) Check valves on pump discharge (CV-3): Iron body, bronze trim, stainless steel spring actuated globe style non-slam valve, flanged or grooved ends.

(j) Strainers: Up to 2 inch, iron body, 125 PSI working pressure, y-pattern with 1/32 inch stainless steel perforated screen. Over 2 inch, iron body, 125 PSI working pressure, y-pattern with 1/8 inch stainless steel perforated screen. Ends to be flanged, grooved or Propress.

(k) Dielectric Couplings: Up to 2 inch, threaded couplings or dielectric unions will be provided where dissimilar metals are connected. Over 2 inch, flanges with suitable gaskets will be used.

6. Ductwork

   (a) Galvanized steel ductwork, lock forming quality having zinc coating of 1.25 oz per s.f. for each side in conformance with ASTM A90. Ductwork will be round, flat oval or rectangular, fabricated and supported in accordance with SMACNA duct construction standards. Duct material, gauges, reinforcing and sealing will be provided for the operating pressures indicated. Exposed ductwork will be required to be spiral.

   (b) Duct joints will be sealed with a non-hardening, water resistant, fire resistive compound.

   (c) For connection to diffusers and grilles, ductwork will be flexible, mylar lined, 1-1/2 inch thick, glass fiber with helically wound steel spring. Connect with draw band and duct tape. The flexible ductwork maximum length will be 7 feet.

   (d) Volume control dampers will be provided at all branch ductwork to diffusers and grilles. Dampers will be single blade in all round ductwork, 16 gauge galvanized steel, with locking and indicating quadrants. Dampers in rectangular ductwork greater than 10" x 30" will be multiple-blade, opposed blade pattern.

   (e) Combination fire smoke dampers will be located where ducts passing through rated walls, floors or ceilings require these assemblies. The dampers will be fabricated in accordance with NFPA 90A and UL 555.

C. EXECUTION

1. Pipe Pressure Testing

   (a) All factory equipment, control devices and instruments will be removed from the piping system or isolated prior to the pressure tests. All hydronic piping will be hydrostatically tested to one and a half times the maximum operating pressure for a duration of 2 hours.

2. Air And Water Balancing

   (a) Air distribution systems will be balanced to within ± 10% of the quantities shown on the plans.

   (b) Filters will be in place for balancing.

   (c) Sheaves and pulleys will be adjusted to provide the maximum required airflow at air handling fans. All other adjustments will be made through volume control dampers.

   (d) Hydronic systems will be balanced to within ± 10% of the quantities shown on the plans.

   (e) Both the air and water balancing will be performed under the supervision of a NEBB or AABC certified Testing, Balancing and Adjusting Supervisor.

   (f) An air and water balance report using NEBB or AABC forms will be provided upon completion of the balancing work.

3. Commissioning

   (a) A third party commissioning agent will be hired by the owner.

   (b) Mechanical systems shall be started up and provided with a complete commissioning report.

   (c) Contractor shall meet with the commissioning agent on a weekly basis during the last 6 months of the project and provide commissioning team support.

   (d) Commissioning shall include a pre-functional test sheet for each piece of equipment to include confirmation of the correct installation of each piece of equipment.

   (e) The commissioning report shall also include a functional test report for each piece of equipment.

   (f) The commissioning report shall be submitted as an electronic pdf as well as one hard copy.

IV. PLUMBING (DOMESTIC) PERFORMANCE CRITERIA

A. INTENT

The performance criteria is intended to define the level of performance of the domestic plumbing system. The parameters used herein shall form the basis of the domestic and laboratory plumbing system design, equipment selection and system sizing.

B. GENERAL PROJECT DESCRIPTION

The project includes a new five story shell building including a four level garage as delineated in the architectural package.

The building is planned to accommodate multiple lab/ office tenants with a 50-50 mix of office to lab area.

The project will be LEED certified (Silver minimum). Provide LEED documentation in accordance with the LEED scorecard.

C. CODES AND STANDARDS

The engineering calculations are based on the latest recommendations of the following codes and standards and good engineering practices consistent with industry practice.

The codes applicable to the design are as follows:
• 2015 International Building Code
• 2015 International Plumbing Code with WSSC amendments
• Latest National Fire Protection Association (NFPA)

The standards applicable to the design are as follows:
• Americans with Disabilities Act (ADA)
• American Gas Association (AGA)

- American Society of Sanitary Engineers (ASSE)
- American Water Works Association (AWWA)
- National Sanitation Foundation (NSF)
- Plumbing and Drainage Institute (PDI)

D. EQUIPMENT SIZING CRITERIA

1. Domestic Water System
   (a) Pipe sizing shall be based on a maximum velocity of 8 fps for domestic hot and cold water supply and 4 fps for domestic hot water return.
   (b) The system shall be designed to maintain a pressure of 40 psig at the most remote fixture based on an incoming pressure of 80 psig.
   (c) Maximum pressure drop of 5 psi/100ft.
2. Storm Drainage System
   (a) Roof and overflow drainage system – both internally piped. Overflow to terminate above grade. Storm water to pipe to two site utility 15” connections at rear of building.
   (b) Garage storm water system for upper floor. Piping to terminate a single site utility connection.
3. Sanitary, Lab Waste and Vent
   (a) The building sanitary waste and vent system will be sized based on the Plumbing Code.
   (b) Lab waste shall be routed to a single exterior WSSC monitor port. No house waste neutralization system is planned.
   (c) Lower levels of garage to be routed to sanitary via solid and oil interceptors.
4. Natural Gas
   (a) Natural gas piping will be sized based on the International Fuel Gas Code.
   (b) The gas pressure entering the building is assumed to be 2 psig.

V. PLUMBING SYSTEM DESCRIPTION

A. INTRODUCTION

1. The plumbing system is designed to support the entire shell building including garage as delineated in the architectural package. The core areas will be entirely fit out. Shell systems will be provided to accommodate the building fit out. Shell systems include potable and non-potable risers, sanitary, vent and lab waste risers for future tenant connections.

2. The plumbing system design shall include underground sanitary, storm water, domestic water and hot water systems. The systems will be extended to provide service to equipment and fixtures as required. The design shall include plumbing fixtures for common toilet rooms and miscellaneous areas.

3. A duplex variable speed controlled domestic water booster pump package will be planned and shall be verified with the results of the water flow test.

4. A fire protection service including a complete wet pipe sprinkler system and standpipes for stair towers shall be provided. A 1,000 GPM fire pump package will be provided and shall be verified with the results of the water flow test.

B. DOMESTIC WATER

1. Provide an 8” combined fire/domestic water service with backflow prevention device.

2. The water services shall extend from the main water valve closet to 5 feet outside of the building where it will connect to the incoming water service line. The domestic water service system shall be extended from fixtures and appliances requiring connection to a point within the main mechanical room. Each line shall be provided with Code required backflow prevention to prevent possible contamination of potable water supply through back siphonage. Incoming fire/domestic water services shall be sized as follows:

3. Provide 3” potable and non-potable cold water main risers – two total – for future tenant connection.

4. Pending the results of a flow test, a domestic water booster pump package will be designed to maintain pressure throughout building. For budgeting purposes, the booster pump shall be a 250 GPM, 45 PSIG duplex system with (2) 15 horsepower motors and a 100 gallon expansion tank. Provide the system complete with control panel and variable speed drives.

5. Branch piping will be provided to serve plumbing fixtures and equipment as necessary.

6. Provide a high efficiency, electric, 50 gallon, 6.5 KW, storage tank type domestic water heater and expansion tank with distribution piping to provide domestic hot water to the core toilet rooms. Water heater is to be located in the roof mechanical room. Provide a hot water circulation system.

7. The lab and office areas are future spaces that will be fit-out by the tenant. Provide a valved and capped 1 1/2" cold water and lab water tap at two points on each floor future space for the tenant's use.
8. Provide make-up water connection with backflow preventers to the boiler, cooling tower and condenser water systems.
9. Wall hydrants shall be provided on each elevation of each building as well as at one location on the roof for maintenance of the property. Backflow devices shall be integral with the wall hydrant.

C. SANITARY, LAB WASTE AND VENT

1. Provide an 8" sanitary service connected to a single site utility connection. Provide an outdoor WSSC monito port at the main effluent lab waste.
2. The combined sanitary line shall extend to 5 feet outside of the building where it will connect to incoming site sanitary lines.
3. The lowest level of the garage shall be served by a duplex sewage ejector pump package with a 50 GPM, 25 feet of head capacity.
4. The sanitary systems will be extended to provide service to fixtures and equipment where required.
5. Provide new sanitary and lab waste vents through the roof.
6. Provide sanitary and lab waste risers at two points in the building for future tenant connection with 4" capped stubs at each floor for each system.

D. STORM DRAINAGE

1. Roof drainage shall be routed inside the building and piped to a collection point on the rear of the building.
2. Condensate drains will be collected from the new air handling equipment and routed to the piped storm system. Provide two 4" condensate main risers with capped connections at each floor for future tenant WSHP condensate collection.
3. Drains shall be provided for the upper level of the garage and also piped to the storm system.
4. The elevator pits shall each be provided with a submersible pump and control systems capable of pumping water while containing oil. Elevator sump pumps shall be Federal Oil Minder with 50 GPM capacity for each elevator cab or approved equal.
5. Provide a 2" express drain connected to the underground storm water system in each stair.

E. NATURAL GAS

1. Natural gas piping will be provided to the boiler room and connected to the two heating water boilers. Provide Washington Gas coordination for meter installation. The manifold shall include space for a future restaurant gas meter.

2. Provide 2 psig pressure gas main services to two buildings as follows:

F. MATERIALS MATRIX

System	Piping	Fittings	Isolation valves	Check valves
Domestic water (2" and under)	CUL/CPVC	Press, Solder, Socket, adhesive	Ball	Swing
Domestic water (Over 2")	CUL	Wrought copper	Ball	Swing
Sanitary Waste and Vent (Below ground)	PVC40	Socket, adhesive		
Sanitary Waste and Vent (Above ground)	PVC40	Socket, adhesive		
Lab Waste and Vent (Below ground)	Enfield	Electrofusion		
Lab Waste and Vent (Above ground)	Enfield – Plenum Line	Mechanical Joint		
Condensate Drainage (Above ground)	PVC40	Socket, adhesive		

Notes:

1. For piping, fittings and valve specifications see section III, HVAC Methods and Materials.

VI. PLUMBING (DOMESTIC) METHODS AND MATERIALS

A. GENERAL

1. The domestic plumbing systems will be designed and installed in accordance with the Plumbing Code including local amendments.

2. All permits (fees by owner), and inspections will be obtained as required by all legal authorities of work included in these documents.

3. All materials and equipment will be new and will be installed in accordance with industry standards.

4. Submittals will be prepared for all materials and equipment indicating performance data, catalog information, installation details, etc. In addition, some areas will be detailed on shop drawings and used for coordination. All submittals and shop drawings will be reviewed and approved by the design engineer.

5. At the completion of the work, one bound set and two electronic disks with pdf files of operations and maintenance manuals will be provided. These manuals will include equipment performance data, installation details, maintenance and service instructions, parts lists, wiring and controls diagrams.

6. A set of plumbing drawings will be maintained at the job site during construction. These drawings will be kept up to date with all changes and deviations and will be used to prepare a set of record drawings, which will be provided at the end of the project.

7. Coordination will take place with other trades during construction. Any interferences found due to other trades will be brought to the attention of the general contractor or construction manager.

8. Upon completion of the work, and at times during the installation (every day), rubbish and debris resulting from the scope of this work will be removed to a location on site provided by the general contractor and the area will be left in a neat, clean and acceptable condition.

9. All equipment and materials furnished and installed under this scope of work will be guaranteed to be free from defects of materials and workmanship for a period of one year after the date of equipment start-up.

10. Any openings required through structural walls, floors and roofs will be identified on block out drawings and provided to the general contractor. All forming, cutting and framing to these openings will be by the general contractor. Provide fire proofing at all fire rated partition penetrations.

11. Architectural access doors required in ceilings and walls will be provided under this Division and installed by the General Contractor.

12. Pipe sleeves will be provided where piping passes through walls and floors. Sleeves will be 18 gauge galvanized steel for walls and steel pipe for floors. Fire stop will be provided where the floor or walls are fire rated. Sleeves will be extended 2 inches above the floor in “wet” areas.

B. MATERIALS

1. Supports and Anchors

   (a) Single pipe hangers will be malleable iron or carbon steel, adjustable swivel, split ring for pipe sizes up to 1-1/2 inches and carbon steel, adjustable clevis hangers for pipe sizes 2 inches and over.

(b) Multiple or trapeze hangers will be unistrut steel channels with unistrut clamps and all-thread hanger rods and double nuts. Where required, unistrut channels may be replaced with structural steel channels or I-beams to meet structural loading.

(c) Wall supports will be unistrut bolted to the wall with unistrut pipe clamps for pipe sizes up to 3 inches and welded steel brackets and steel clamps for pipe sizes greater than 4 inches.

(d) Vertical pipe will be supported with steel riser clamps for steel pipe and copper riser clamps for copper pipe.

(e) Horizontal pipe will be supported with the minimum spacing:

Pipe Size (In.)	Copper Pipe (Ft.)	Steel Pipe (Ft.)	Hanger Diameter (In.)
½"	6'	6'	⅜"
¾" to 1"	6'	8'	⅜"
1-½" to 1-½"	6'	10'	⅜"
2"	10'	10'	⅜"
2-½" to 4"	10'	10'	½"
6" to 8"		10'	⅝"

(f) All piping will be sway braced for the appropriate seismic hazard level.

(g) Drill-in expansion bolts will be used to support piping from concrete structures. Low velocity shot pin fasteners will also be used where permitted by the structural engineer.

2. Equipment and piping Identification

(a) All major equipment will be identified with a laminated plastic nameplate with engraved white letters on a black background. Equipment to be identified will include water heaters, sump pumps, sewage ejector, tanks, etc.

(b) All exposed piping in equipment rooms, tunnels and service chases will be identified with adhesive pipe markers showing the service and arrow bands for direction of flow.

(c) Main valves in equipment rooms will be identified with brass tags attached by chain.

(d) A valve chart will be provided indicating the system and service of each valve identified in Para B.2.(c).

3. Mechanical Insulation and Heat Trace

(a) Pipe insulation will be provided on domestic hot water piping, domestic hot water re-circulating and domestic cold water piping mains. The insulation will be glass fiber with a k-factor of 0.24 at 75ºF, non-combustible, with a service temperature range of -20ºF to 450ºF.

(b) An all service jacket with integral vapor barrier consisting of white kraft paper with foil face and sealed joints will be used on low temperature services. Fitting covers will be PVC one-piece, pre-molded type.

(c) All insulated exterior piping will be covered with 0.006 inch thick corrugated aluminum jacket.

(d) Provide heat trace with self-contained controls sized for 7.5 W/ft2 for exterior water piping such as mechanical equipment make up water.

(e) Pipe insulation thickness will be as follows:

System	Temperature Range (F)	Insulation Thickness (in.) for Nominal Pipe Sizes			
		< 1”	1-¼” to 2”	2-½” to 4”	6”
Domestic Hot Water and Hot Water Re-circulating	Above 105	1”	1”	1”	1”
Domestic Cold Water (Outdoors)	Below 32	½”	1”	1”	1”

4. Domestic hot and cold water piping and valves

(a) Copper pipe sizes over 2 inch (CUL): Copper pipe, ASTM B88, Type L, hard drawn with ANSI/ASME B16.29 wrought copper fittings. Joints to be Victaulic or ProPress.

(b) Copper pipe sizes up to 2” inch (PVC/CPVC): Schedule 40 PVCr pipe. Joints will be made with PVC adhesive.

(c) Unions will be installed where threaded equipment or valves require removal.

(d) Ball valves (BA-1): Up to 2-1/2 inch, 150 PSI WOG, bronze body two piece, full port, stainless steel body and trim, Teflon seats, lever handle, threaded, Propress or soldered connections.

(e) Ball valves (BA-2): Up to 2-1/2 inch, 150 PSI WOG, PVC body two piece, Teflon seats, lever handle, PVC connections.

(f) Butterfly valves (BF-1): 2-1/2 inch and up, iron body, aluminum-bronze disc, EPDM seals, 200 PSI working pressure, lug or grooved ends. Lever handle up to 6 inch, gear operator 8 inch and over.

(g) Check valves (CV-1): Up to 2 inch, Class 125 bronze body, horizontal swing, ypattern,threaded, Propress or soldered ends.

(h) Check valves (CV-2): Over 2 inch, Class 125 iron body, horizontal swing, flanged, grooved or Propress ends, bolted bonnet.

(i) Check valves on pump discharge (CV-3): Iron body, bronze trim, stainless steel spring actuated globe style non-slam valve, flanged or grooved ends.

(j) Strainers: Up to 2 inch, iron body, 125 PSI working pressure, y-pattern with 1/32 inch stainless steel perforated screen. Over 2 inch, iron body, 125 PSI working pressure, y-pattern with 1/8 inch stainless steel perforated screen.

(k) Dielectric Couplings: Up to 2 inch, threaded couplings or dielectric unions will be provided where dissimilar metals are connected. Over 2 inch, flanges with suitable gaskets will be used.

5. Condensate drain piping

(a) PVC pipe sizes up to 3 inch (PVC): Schedule 40 PVC pipe, with PVC fittings

6. Sanitary Soil, Waste and Vent piping

(a) Pipe and fittings above and below ground (PVC40): ASTM D2665-85a Schedule 40 PVC piping with socket fittings and adhesive joints.

C. EXECUTION

1. Pitch: Horizontal sanitary and drain piping shall be run at a uniform grade of 1/8” per foot for pipe sizes 4” and larger, and ¼” per foot for pipe sizes 3” and less, unless noted otherwise.

2. Water piping within walls and rough-ins for fixtures and equipment: Copper plated steel support system clamped to piping and secured to building construction so that pipes cannot be displaced. Hot water piping insulation with standard jackets, with or without vapor barrier, factory applied or field applied. Fittings, joints and valves shall be insulated with like material and thickness as adjoining pipe.

3. Waste and vent piping within walls and rough-ins for fixtures and equipment: Copper plated steel support system for copper DWV piping or galvanized steel support system for cast iron or galvanized piping. Supports to piping and building construction shall be secured so that pipes cannot be displaced. Felt strip isolation shall be provided between dissimilar metals.

4. Unions and flanges: On piping to inlet and outlet of all apparatus and equipment to facilitate removal of equipment.

5. Water hammer arrestors: Water hammer arrestors shall be installed at all quick closing valves such as flush valves, foot control valves, float valves, solenoid valves, etc. Water hammer arrestors shall be sized and located as recommended by PDI manual WH 201.

6. Cleanouts shall be provided and installed per the code.

7. Pipe Pressure Testing

(a) Domestic water piping: All factory equipment, control devices and instruments will be removed from the piping system or isolated prior to the pressure tests. All domestic hot and cold piping will be hydrostatically tested to a test pressure of one and one half times the maximum operating pressure of the system for a duration of 2 hours.

(b) Sanitary and vent piping: All above ground piping will be tested hydrostatically by closing all openings in the piping system, except the highest opening above the roof, and by filling the system to the point of overflowing. The pressure exerted on the system shall be no less than 10 ft of water column.

VII. ELECTRICAL SYSTEMS DESCRIPTION

A. INTENT

This performance criteria is intended to define the level of performance of the electrical system. The parameters used herein will form the basis of the electrical system design, equipment selection and system sizing.

B. GENERAL PROJECT DESRIPTION

The project includes a new five story shell building including a four level garage as delineated in the architectural package.

The building is planned to accommodate multiple lab/ office tenants with a 50-50 mix of office to lab area.

The project will be LEED certified (Silver minimum). Provide LEED documentation in accordance with the LEED scorecard.

C. CODES AND STANDARDS

The engineering calculations are based on the latest recommendations of ASHRAE, Article 220 of the National Electrical Code (NEC) and good engineering practices consistent with industry standards.

The codes applicable to the design are as follows:

- 2015 International Building Code
- 2015 International Energy Conservation Code
- 2015 International Fire Code with State of Maryland Amendments
- 2014 National Electric Code
- Montgomery County Code Amendments
- NC LEED Standards – LEED Silver or Gold

The standards applicable to the design are as follows:

- Illuminating Engineering Society (IES)
- Institute of Electrical and Electronics Engineers (IEEE)

D. PROJECT OVERVIEW

The electrical systems are designed to support the entire shell building including garage as delineated in the architectural package. The core areas will be entirely fit out. Shell systems will be provided to accommodate the building fit out. Shell systems include normal power (20 W/ft2), stand by power systems (3 W/ft2), an addressable fire alarm system with expansion capability for tenant fit out work and data/ phone floor to floor wire management system to accommodate tenant fit out without requiring access to other tenant spaces. Systems sized for 50-50 office/ lab fit out. Tenant power risers are planned along with space for tenant panel boards and transformers.

A main electrical service will be provided by Pepco pad mounted transformer with service entrance switchboards centrally located in the first level main electric room.

A diesel generator will be provided to supply standby power to life safety systems and optional standby loads. Generator automatic transfer switches and emergency distribution equipment will be centrally located in the first floor main electrical room.

Lighting fixtures will be provided throughout all core areas of the building as well as the garage and will be energy efficient LED type. Stumble and egress lighting will be provided in the future tenant spaces. Automatic lighting controls using occupancy sensors and electronic time centers will be provided to control lighting in public corridors, lobbies, office areas, parking garages, storage rooms, utility rooms and other similar use rooms. A fire alarm system will be provided throughout the building with a central control and annunciator panel located in the main lobby.

E. POWER DISTRIBUTION

The building will be supplied by one 277/480 volts service from a Pepco pad mounted transformers. 2 separate utility transformers will be provided with a 12 way ductbank from each to 2 separate service entrance switchboards.

The building switchboard will consist of the following:

4000A – 480Y/277 volt Switchboard: CT Section with Pepco meter, 4000A main breaker with GFP and feeder breakers for future tenants.

3000A – 480Y/277 volt Switchboard: CT Section with Pepco meter, 3000A main breaker with GFP and feeder breakers for future tenants and common area power.

A 1000A breaker will be provided in the 3000A switchboard to feed a 1000A automatic transfer switch for emergency power. A separate 225A breaker will be provided in the 3000A switchboard to feed a 225A automatic transfer switch for life safety loads.

A 75 KVA step down dry type transformer will be provided for all house 208Y/120 volt loads. Additional transformers will be provided by the future tenants.

A short circuit study, coordination study and arc-flash hazard analysis will be provided by the contractor as part of the entire electrical distribution system equipment installation. This study will assure that all overcurrent protective devices throughout the complex are coordinated to isolate any faults occurring in the power system and localize associated outages. The arc-flash hazard analysis will be prepared in accordance with the requirements set forth in NFPA 70E-Standard for Electrical Safety in the Workplace. The arc-flash hazard analysis will be performed according to the IEEE 1584 equations that are presented in NFPA 70E-2004, Annex D. The contractor will provide arc-flash labels on all electrical switchboards, panel boards and safety switches in the various buildings. Each label will indicate the flash protection boundary, risk category, working clearance and level of personnel protection equipment (PPE) required while performing maintenance.

F. STANDBY GENERATOR (EMERGENCY)

A 277/480 volt 700kW diesel generator with skid mounted fuel storage tank sized for 48 hour run time will be located outside on grade next to the Pepco transformer to provide standby power. A remote generator annunciator panel will be provided in the main electric room and be NFPA 110 compliant. A 1000A and 225A breaker will be provided on the output of the generator to feed 2 separate automatic transfer switches in main electrical room.

ATS-1 - 1000 ampere, 480Y/277 volts: tenant emergency power.

ATS-2 – 225 ampere, 480Y/277 volts; building wide life safety loads which includes lighting, fire alarm, security, and single elevator.

G. LIGHTING

Lighting fixtures in the parking, public and common areas will be LED type.

Lighting controls in the toilet rooms, storage rooms, trash rooms, janitor closets and similar rooms will consist of automatic occupancy sensor type switches to comply with current energy codes. Lighting in public corridors, parking garages and other common areas will be automatically controlled based on time of day occupancy schedules using electronic time clocks and relays to comply with current energy codes. Override controls will be provided in each area to provide override of the automatic timed controls.

UL924 relays will be provided for all lighting to be on life safety generator circuits.

Lighting levels will be designed to meet the recommended standards of the Illuminating Engineering Society (IES). Average, maintained lighting levels (footcandles) for the spaces in the building will be as follows:

- Corridors 20 FC
- Parking Garages 20 FC
- Equipment Rooms 30 FC
- Lobbies/reception 20 FC
- Storage Rooms 20 FC
- Public Toilet/Locker Rooms 30 FC
- Elevator Machine Rooms 50 FC

Pole mounted light fixtures using cut off type LED luminaires will be provided for the parking lot areas. All exterior lighting will be automatically controlled dusk-to-dawn using photocells and contactors.

H. FIRE ALARM SYSTEM

A fire alarm system complete with addressable control panel and remote lobby annunciator will be provided. The building will report to a central control and annunciator panel located in the main electric room and transmit an alarm offsite to a UL listed central monitoring company. An annunciator panel will also be provided in the main lobby vestibule at a location to be selected by the Architect.

Pull stations, horns and strobes will be installed throughout the building in accordance with NFPA 72 – National Fire Alarm and Signaling Code. All sprinkler system water flow and tamper switches will be monitored by the building fire alarm system. Air handling unit duct smoke detectors and shaft mounted duct smoke detectors at smoke dampers will be addressable type and will be provided as part of the building fire alarm system.

Smoke and heat detectors will be provided in all elevator machine rooms, hoistways, pits and elevator lobbies in accordance with ANSI/ASME A17.1 Safety Code for Elevators. The building storm water ejector pumps shall be provided with a pump failure monitor system through the security/fire alarm system that transmits an automatic alarm to the security/fire alarm monitoring company.

I. COMMUNICATION SYSTEMS

Verizon voice/data service cables (both copper and fiber) and Comcast cable television service cables will be extended from the street manhole system to a central communications room.

J. SECURITY SYSTEM

The building will be provided with access control and closed-circuit TV camera surveillance systems. Access proximity key fob readers will be provided at each building entry door as well as in each elevator cab. The owner's security vendor will provide security equipment and cables to suit the owner's criteria. Provisions such as outlet boxes, conduit sleeves and 120 volt power to equipment will be made in the buildings to accommodate the final security system layout provided by the owner. Access control card readers will be located at all building exterior egress and exit/entry doors. The security camera surveillance system provided by the owner will be centrally located in the lobby and include eight (8) fixed cameras, two (2) DVR recorders (90 day recording capacity) and two (2) split screen monitors.

EXHIBIT C-2 TO LEASE
TENANT WORK LETTER

THIS WORK LETTER FOR TENANT IMPROVEMENTS dated November ___, 2018 (this "**Work Letter**") is made and entered into by and between **ARE-MARYLAND NO. 24, LLC**, a Delaware limited liability company ("**Landlord**"), and **REGENXBIO, INC.**, a Delaware corporation, and is attached to and made a part of the Lease Agreement dated November __, 2018 ("**Lease**"), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

1. **General Requirements**.

(a) **Tenant's Authorized Representative**. Tenant designates Jerome Jackson, Vit Vasista, and Patrick Christmas (any such individual acting alone, "**Tenant's Representative**") as the only persons authorized to act for Tenant pursuant to this Work Letter. Landlord shall not be obligated to respond to or act upon any request, approval, inquiry or other communication ("**Communication**") from or on behalf of Tenant in connection with this Work Letter unless such Communication is in writing from Tenant's Representative. Tenant may change any Tenant's Representative at any time upon not less than 5 business days advance written notice to Landlord.

(b) **Landlord's Authorized Representative**. Landlord designates Lawrence J. Diamond, Edward J. Rose, and William DePippo (any such individual acting alone, "**Landlord's Representative**") as the only persons authorized to act for Landlord pursuant to this Work Letter. Tenant shall not be obligated to respond to or act upon any request, approval, inquiry or other Communication from or on behalf of Landlord in connection with this Work Letter unless such Communication is in writing from Landlord's Representative. Landlord may change any Landlord's Representative at any time upon not less than 5 business days advance written notice to Tenant.

(c) **Architects, Consultants and Contractors**. Landlord and Tenant hereby acknowledge and agree that the architect ("**TI Architect**") and the engineer ("**TI Engineer**") for the Tenant Improvements (as defined in Section 2(a) below), the general contractor ("**TI General Contractor**") and any subcontractors for the Tenant Improvements shall be selected by Tenant, subject to Landlord's approval, which approval shall not be unreasonably withheld, conditioned or delayed. Landlord shall be named a third party beneficiary of any contract entered into by Tenant with the TI Architect, any consultant, any contractor or any subcontractor (which third party beneficiary designation shall allow Landlord to assume such contract or the rights and obligations of Tenant thereunder only on a Default by Tenant under the Lease), and of any warranty made by any contractor or any subcontractor with respect to the Tenant Improvements. Landlord's assumption of such contract or the rights and obligations of Tenant thereunder only on a Default by Tenant under the Lease shall be at Landlord's sole risk, cost, and expense, except that in no event whatsoever shall Landlord be liable or responsible for any liabilities or obligations of Tenant that arose or relate to matters occurring before the date of such assumption.

2. **Tenant Improvements.**

(a) **Tenant Improvements Defined**. As used herein, "**Tenant Improvements**" shall mean all improvements to the Premises desired by Tenant of a fixed and permanent nature, other than the Base Building Work (as defined in the Work Letter attached as **Exhibit C-1** to the Lease ("**Landlord Work Letter**")). Other than as set forth in Landlord Work Letter and the funding of the TI Allowance (as defined below) as provided herein, Landlord shall not have any obligation whatsoever with respect to the finishing of the Premises for Tenant's use and occupancy.

i. **TI Design Drawings**. Tenant shall deliver to Landlord for review and approval, schematic drawings and outline specifications ("**TI Design Drawings**") detailing Tenant's requirements for the Tenant Improvements after Tenant's receipt of the Final Base Building Construction Drawings (as defined in the Landlord Work Letter). Not more than 15 days thereafter, Landlord shall deliver to Tenant the written objections or comments of Landlord with regard to the TI Design Drawings, provided that Landlord's review and approval rights as to the TI Design Drawings shall be limited to a review thereof to confirm that the Tenant Improvements as specified therein: (i) are reasonably compatible with (and do not adversely affect) the structural, MEP, and other systems of the Building, (ii) do not materially and adversely impact (in Landlord's reasonable judgment) either the exterior appearance or operations of the Building or the operations of the Common Areas, and (iii) comply with all applicable Legal Requirements. Tenant shall cause the TI Design Drawings to be revised by the TI Architect and, if applicable, the TI Engineer, to address such permitted written objections or comments and shall resubmit the drawings to Landlord for approval within 10 business days after Tenant's receipt thereof. Such process shall continue until Landlord has approved the TI Design Drawings, except that in each round of review and resubmission after the initial round, the review and resubmission periods shall be each be reduced to 5 business days. If Landlord fails to provide its written objections or comments to Tenant within the applicable review period, the TI Design Drawings as most recently submitted shall be deemed approved by Landlord. Each transmittal of the revised TI Design Drawings to Landlord shall state in all capital letters in bold font the following (or a substantially similar statement): "**LANDLORD'S FAILURE TO RESPOND WITHIN [15 CALENDAR/5 BUSINESS] DAYS AFTER RECEIPT OF THE REVISED TI DESIGN DRAWINGS SHALL CONSTITUTE LANDLORD'S APPROVAL OF THE REVISED TI DESIGN DRAWINGS**," and shall be sent to the recipients identified below in accordance with the notice provisions in the Lease:

ARE-Maryland No. 24, LLC
c/o Alexandria Real Estate Equities, Inc.
385 E. Colorado Blvd., Suite 299
Pasadena, CA 91101
Attention: Corporate Secretary

Mr. Lawrence J. Diamond
Co-Chief Operating Officer
Regional Market Director- Maryland
Alexandria Real Estate Equities, Inc.
946 Clopper Road
Gaithersburg, MD 20878

Kevin L. Shepherd, Esquire
Venable LLP
Suite 900
750 East Pratt Street
Baltimore, MD 21202

The TI Design Drawings as so revised and approved (or deemed approved) by Landlord are hereinafter referred to as the "**Approved TI Design Drawings**".

(b) **TI Construction Drawings**. After the date the Approved TI Design Drawings have been approved (or deemed approved) by Landlord, Tenant shall cause the TI Architect and, if applicable, the TI Engineer, to prepare and deliver to Landlord for review and approval, construction plans, specifications, and drawings for the Tenant Improvements ("**TI Construction Drawings**"), which shall be prepared in accordance with and consistent with the Approved TI Design Drawings. Tenant shall be solely responsible for ensuring that the TI Construction Drawings reflect Tenant's requirements for the Tenant Improvements. Landlord shall deliver its written approval or disapproval of (or comments on) the TI Construction Drawings to Tenant not later than 10 business days after Landlord's receipt of the same; provided, however, that Landlord may not disapprove any matter that is consistent with the Approved TI Design Drawings. Tenant and the TI Architect and, if applicable, the TI Engineer, shall consider all such comments in good faith and shall, within 10 business days after receipt, notify Landlord how Tenant proposes to respond to such comments. Any disputes in connection with such comments shall be resolved in accordance with Section 2(d)

hereof. Provided that the design reflected in the TI Construction Drawings is consistent with the Approved TI Design Drawings, Landlord shall approve the TI Construction Drawings submitted by Tenant, and if Landlord fails to do so within such 10 business day period, Landlord shall be deemed to have approved such drawings as most recently submitted. Each transmittal of the revised TI Construction Drawings to Landlord shall state in all capital letters in bold font the following (or a substantially similar statement): "**LANDLORD'S FAILURE TO RESPOND WITHIN 10 BUSINESS DAYS AFTER RECEIPT OF THE REVISED TI CONSTRUCTION DRAWINGS SHALL CONSTITUTE LANDLORD'S APPROVAL OF THE REVISED TI CONSTRUCTION DRAWINGS**," and shall be sent to the recipients identified in Section 2(a)i. above in accordance with the notice provisions in the Lease. The TI Construction Drawings as so revised and approved (or deemed approved) by Landlord are hereinafter referred to as the "**Approved TI Construction Drawings**". Once approved (or deemed approved) by Landlord, subject to the provisions of Section 4 below, Tenant shall not modify the Approved TI Construction Drawings except as may be reasonably required in connection with the making of Minor Variations (as defined in Section 3(d) below).

(c) **Approval and Completion**. If any dispute regarding the design of the Tenant Improvements is not settled within 10 business days after notice of such dispute is delivered by one party to the other, Tenant may make the final decision regarding the design of the Tenant Improvements, provided (i) Tenant acts reasonably, (ii) that all costs and expenses incurred by Tenant resulting from any such decision by Tenant shall be payable out of the TI Allowance (as defined in Section 5(d) below), and (iii) Tenant's decision will not affect the base Building, the Base Building Work, the structural components of the Building or any Building systems (in which case Landlord shall make the final decision). Any changes to the Approved TI Construction Drawings requested by Tenant shall be processed as provided in Section 4 hereof.

3. **Performance of the Tenant Improvements**.

(a) **Commencement and Permitting of the Tenant Improvements**. At any time on and after the Turnover Condition Date (as defined in the Landlord Work Letter), Tenant shall, or prior to such date as provided in the Landlord Work Letter, Tenant may, commence construction of the Tenant Improvements upon obtaining and delivering to Landlord a building permit ("**TI Permit**") authorizing the construction of the Tenant Improvements consistent with the Approved TI Construction Drawings. The cost of obtaining the TI Permit shall be payable from the TI Allowance. Landlord shall, at no cost to Tenant, assist Tenant in obtaining the TI Permit. Prior to the commencement of the Tenant Improvements, Tenant shall (i) enter into with Tenant's contractors the contracts for the construction and performance of the Tenant Improvements, (ii) deliver to Landlord true and complete copies of such executed contracts, and (iii) deliver certificates of insurance from any contractor performing any part of the Tenant Improvement evidencing industry standard commercial general liability, automotive liability, "builder's risk", and workers' compensation insurance. Tenant shall cause the general contractor to provide a certificate of insurance naming Landlord, Alexandria Real Estate Equities, Inc., and Landlord's lender (if any) as additional insureds for the general contractor's liability coverages required above. Within 10 days after Landlord's written request, Tenant shall at its expense complete and submit any documentation required by the applicable Governmental Authority (including, but not limited to, the Washington Suburban Sanitary Commission ("**WSSC**")) for the issuance of a plumbing authority (or comparable) permit relating to laboratory water and wastewater usage at the Premises. Such documentation includes, but is not limited to, an Industrial Wastewater Survey on the form specified by WSSC's Regulatory Services Division, Industrial Discharge Control Section. At Landlord's request, Tenant shall also meet with Landlord and WSSC personnel at the Project to review cooperatively matters relating to water and wastewater usage, including, but not limited to, laboratory processes.

(b) **Selection of Materials, Etc**. Where more than one type of material or structure are denoted as options on the Approved TI Construction Drawings, the option will be within Tenant's reasonable discretion if the matter concerns the Tenant Improvements, and within Landlord's sole and absolute subjective discretion if the matter concerns the structural components of the Building or any Building system.

(c) **Tenant Liability**. Tenant shall be responsible for correcting any deficiencies or defects in the Tenant Improvements.

(d) **Substantial Completion**. Tenant shall substantially complete or cause to be substantially completed the Tenant Improvements in a good and workmanlike manner, in accordance with the TI Permit subject, in each case, to Minor Variations and normal "punch list" items of a non-material nature that do not interfere with the use of the Premises ("**Substantial Completion**" or "**Substantially Complete**"). Upon Substantial Completion of the Tenant Improvements, Tenant shall require the TI Architect and the TI General Contractor to execute and deliver, for the benefit of Tenant and Landlord, a Certificate of Substantial Completion in the form of the American Institute of Architects ("**AIA**") document G704. For purposes of this Work Letter, "**Minor Variations**" shall mean any modifications reasonably required: (i) to comply with all applicable Legal Requirements and/or to obtain or to comply with any required permit (including the TI Permit); (ii) to comport with good design, engineering, and construction practices that are not material; or (iii) to make reasonable adjustments for field deviations or conditions encountered during the construction of the Tenant Improvements.

4. **Changes**. Any changes requested by Tenant to the Tenant Improvements after the date of the Approved TI Construction Drawings ("**Changes**"), shall be requested and instituted in accordance with the provisions of this Section 4 and shall be subject to the written approval of Landlord, which approval shall not be unreasonably withheld, conditioned, or delayed.

(a) **Tenant's Right to Request Changes**. If Tenant shall request Changes, Tenant shall request such Changes by notifying Landlord in writing (a "**Change Request**"), which Change Request shall detail the nature and extent of any such Change. Such Change Request must be signed by Tenant's Representative. Landlord shall review and approve or disapprove such Change Request within 5 business days after receipt of the Change Request, which approval shall not be unreasonably withheld or conditioned. If Landlord fails to approve or disapprove a Change Request within such 5 business day period, the Change Request shall be deemed approved by Landlord. The Change Request shall state in all capital letters in bold font the following (or a substantially similar statement): "**LANDLORD'S FAILURE TO RESPOND WITHIN 5 BUSINESS DAYS AFTER RECEIPT OF THIS CHANGE REQUEST SHALL CONSTITUTE LANDLORD'S APPROVAL OF THE CHANGE REQUEST**," and shall be sent to the recipients identified in Section 2(a)i. above in accordance with the notice provisions in the Lease.

(b) **Implementation of Changes**. If Landlord approves (or is deemed to have approved) such Change, Tenant may cause the approved Change to be instituted. If any TI Permit modification or change is required as a result of such Change, Tenant shall promptly provide Landlord with a copy of such TI Permit modification or change.

5. **Costs**.

(a) **Budget for Tenant Improvements**. Before the commencement of construction of the Tenant Improvements, Tenant shall obtain a detailed breakdown, by trade, of the costs incurred or that will be incurred, in connection with the design and construction of the Tenant Improvements ("**Budget**"), and deliver a copy of the Budget to Landlord. The Budget shall be based upon the Approved TI Construction Drawings.

(b) **TI Allowance**. Landlord shall provide to Tenant a tenant improvement allowance ("**TI Allowance**") of **$110** per rentable square foot of the Premises, or **$14,573,570** in the aggregate (based on the Premises containing 132,487 rentable square feet and subject to adjustment upon remeasurement of the Premises as provided in the Lease). The TI Allowance shall be disbursed in accordance with this Work Letter. Tenant shall have no right to any portion of the TI Allowance that is not requested before the last day of the month that is 24 months after the Lease Commencement Date.

(c) **Costs Payable from TI Allowance**. The TI Allowance shall be used solely for the payment of (i) design, project management, permits, and construction costs in connection with the construction of the Tenant Improvements, including, without limitation, the cost of electrical power and other utilities used in connection with the construction of the Tenant Improvements, (ii) Tenant's voice or data cabling, (iii) security systems, and (iv) the cost of preparing the Approved TI Design Drawings and the Approved TI Construction Drawings, including cost of Changes (collectively, "**TI Costs**"). Except as provided in the immediately preceding sentence, the TI Allowance shall not be used to purchase any furniture, personal property or other non-Building system materials or equipment, including, but not be limited to, non-ducted biological safety cabinets and other scientific equipment not incorporated into the Tenant Improvements.

(d) **Excess TI Costs**. Landlord shall have no obligation to bear any portion of the cost of any of the Tenant Improvements except to the extent of the TI Allowance. If at any time and from time-to-time, the remaining TI Costs under the Budget exceed the remaining unexpended TI Allowance ("**Excess TI Costs**"), then Landlord shall only be obligated to pay out the remaining unexpended TI Allowance with respect to TI Costs requested to be paid under any draw request pursuant to Section 5(e) below, in the same ratio as the then remaining unexpended TI Allowance bears to the remaining TI Costs under the Budget. Notwithstanding anything to the contrary set forth in this Section 5(d), (i) Tenant shall be fully and solely liable for Excess TI Costs and the cost of Minor Variations in excess of the TI Allowance, and (ii) as a condition precedent to Landlord's obligation to disburse the TI Allowance, Tenant shall deliver to Landlord information reasonably acceptable to Landlord confirming that Tenant has the funds immediately available to pay the Excess TI Costs.

(e) **Payment for TI Costs**. During the course of design and construction of the Tenant Improvements, Landlord shall pay TI Costs once a month against a draw request in Landlord's standard and reasonable form, accompanied by the TI General Contractor's sworn statement, the TI Architect's certification of partial completion, and lien waivers (comprising conditional partial or final lien releases for each progress payment and unconditional partial or final lien releases for the prior month's progress payments), to the extent of Landlord's approval thereof for payment, no later than 30 days following receipt of such draw request, provided that if at any time a draw request is made and prior to Landlord's payment thereunder, Tenant is then in default of its obligations under the Lease or this Work Letter of which default Tenant has been given notice, Landlord's payment obligation shall be suspended until such time as Tenant timely cures such default (and if Tenant fails to timely cure such default, the provisions of Section 4(b) of the Lease shall continue to apply). Upon completion of the Tenant Improvements (and prior to any final disbursement of the TI Allowance), Tenant shall deliver to Landlord: (i) the TI General Contractor's sworn statement

setting forth the names of all contractors and first tier subcontractors who did the work and final, unconditional lien waivers from all such contractors and first tier subcontractors; (ii) as-built plans (one copy in print format and two copies in electronic CAD format) for such Tenant Improvements; (iii) the TI Architect's certification of substantial completion in Form AIA G704, (iv) a temporary or final certificate of occupancy for the Premises; and (v) copies of all operation and maintenance manuals and warranties for all equipment installed in the Premises as part of or in conjunction with the Tenant Improvements, which may be in electronic form (such as PDF).

(f) **Test Fit Allowance**. Landlord shall pay to Tenant within 30 days after Landlord's receipt of TI Architect's invoice therefor, an amount equal to **$0.15** per rentable square foot of the Premises, i.e., **$19,873.05** (based on the Premises containing 132,487 rentable square feet), to fund a test fit/preliminary design of the Premises by the TI Architect.

6. **Miscellaneous**.

(a) **Consents**. Whenever consent or approval of either party is required under this Work Letter, that party shall not unreasonably withhold, condition or delay such consent or approval, except as may be expressly set forth herein to the contrary.

(b) **Modification**. No modification, waiver or amendment of this Work Letter or of any of its conditions or provisions shall be binding upon Landlord or Tenant unless in writing signed by Landlord and Tenant.

EXHIBIT D TO LEASE
ACKNOWLEDGMENT OF COMMENCEMENT DATE

This **ACKNOWLEDGMENT OF COMMENCEMENT DATE** is made as of this _____ day of _____, 201__, between **ARE-MARYLAND NO. 24, LLC**, a Delaware limited liability company ("**Landlord**"), and **REGENXBIO INC.**, a Delaware corporation ("**Tenant**"), and is attached to and made a part of the Lease Agreement dated as of November __, 2018 ("**Lease**"), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

Landlord and Tenant hereby acknowledge and agree that the Commencement Date of the Base Term of the Lease is _____, 2018, the Lease Commencement Date is _____, the Rent Commencement Date (subject to the Base Rent Abatement) is _____, the 4th Floor Rent Commencement Date is _____, and the expiration date of the Base Term of the Lease shall be midnight on _____. In case of a conflict between the terms of the Lease and the terms of this Acknowledgement of Commencement Date, this Acknowledgement of Commencement Date shall control for all purposes.

IN WITNESS WHEREOF, Landlord and Tenant have executed this ACKNOWLEDGMENT OF COMMENCEMENT DATE under seal to be effective on the date first above written.

TENANT:

REGENXBIO INC.,
a Delaware corporation

By: _____ (SEAL)
Name: _____
Title: _____

LANDLORD:

ARE-MARYLAND NO. 24, LLC,
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS CORP.,
a Maryland corporation,
general partner

By: _____ (SEAL)
Name: _____
Title: _____

EXHIBIT E TO LEASE

Rules and Regulations

48. The sidewalk, entries, and driveways of the Project shall not be obstructed by Tenant, or any Tenant Party, or used by them for any purpose other than ingress and egress to and from the Premises.

49. Tenant shall not place any objects, including antennas, outdoor furniture, etc., in the parking areas, landscaped areas or other areas outside of its Premises, or on the roof of the Project.

50. Except for service animals assisting the disabled, no animals shall be allowed in the offices, halls, or corridors in the Project.

51. Tenant shall not disturb the occupants of the Project or adjoining buildings by the use of any radio or musical instrument or by the making of loud or improper noises.

52. If Tenant desires telegraphic, telephonic or other electric connections in the Premises, Landlord or its agent will reasonably direct the electrician as to where and how the wires may be introduced; and, without such direction, no introduction of wires will be permitted (except as may be shown on the approved plans for the Tenant Improvements, any Alterations or Installations). Any such installation or connection shall be made at Tenant's expense (except to the extent paid pursuant to the TI Allowance (as defined in the Tenant Work Letter)).

53. Tenant shall not install or operate any steam or gas engine or boiler, or other mechanical apparatus in the Premises, except as specifically approved in the Lease or the approved plans for the Tenant Improvements, any Alterations or Installations. The use of oil, gas or inflammable liquids for heating, lighting or any other purpose is expressly prohibited. Explosives or other articles deemed extra hazardous shall not be brought into the Project.

54. Parking any type of recreational vehicles is specifically prohibited on or about the Project. Except for the overnight parking of operative vehicles, no vehicle of any type shall be stored in the parking areas at any time. In the event that a vehicle is disabled, it shall be removed within 48 hours. There shall be no "For Sale" or other advertising signs on or about any parked vehicle. All vehicles shall be parked in the designated parking areas in conformity with all signs and other markings. All parking will be open parking, and no reserved parking, numbering or lettering of individual spaces will be permitted except as specified by Landlord or the Lease.

55. Tenant shall maintain the Premises free from rodents, insects and other pests.

56. Landlord reserves the right to exclude or expel from the Project any person who, in the judgment of Landlord, is intoxicated or under the influence of liquor or drugs or who shall in any manner do any act in violation of the Rules and Regulations of the Project.

57. Tenant shall not cause any unnecessary labor by reason of Tenant's carelessness or indifference in the preservation of good order and cleanliness. Landlord shall not be responsible to Tenant for any loss of property on the Premises, however occurring, or for any damage done to the effects of Tenant by the janitors or any other employee or person.

58. Tenant shall give Landlord prompt notice after becoming aware of any defects in the water, lawn sprinkler, sewage, gas pipes, electrical lights and fixtures, heating apparatus, or any other service equipment affecting the Premises.

59. Tenant shall not permit storage outside the Premises, including without limitation, outside storage of trucks and other vehicles, or dumping of waste or refuse or permit any harmful materials to be placed in any drainage system or sanitary system in or about the Premises.

60. All moveable trash receptacles provided by the trash disposal firm for the Premises must be kept in the trash enclosure areas, if any, provided for that purpose.

61. No auction, public or private, will be permitted on the Premises or the Project.

62. No awnings shall be placed over the windows in the Premises except with the prior written consent of Landlord.

63. The Premises shall not be used for lodging, sleeping or cooking or for any immoral or illegal purposes or for any purpose other than that specified in the Lease. No gaming devices (such as slot or video poker machines) shall be operated in the Premises.

64. Tenant shall ascertain from Landlord the maximum amount of electrical current that can safely be used in the Premises, taking into account the capacity of the electrical wiring in the Project and the Premises and the needs of other tenants, and shall not use more than such safe capacity. Landlord's consent to the installation of electric equipment shall not relieve Tenant from the obligation not to use more electricity than such safe capacity.

65. Tenant assumes full responsibility for protecting the Premises from theft, robbery and pilferage.

66. Tenant shall not install or operate on the Premises any machinery or mechanical devices of a nature not directly related to Tenant's Permitted Use of the Premises and shall keep all such machinery free of vibration and noise that are transmitted beyond the Premises.

EXHIBIT F TO LEASE
TENANT'S PERSONAL PROPERTY

None except as set forth below:

NONE

EXHIBIT G TO LEASE
LOCATION OF IDENTIFICATION SIGNAGE

NORTH ELEVATION - View from Northeast

NOTE: Sizes are approximate

Regenbio \ Shady Grove 2- \ Elev 010718

Larry Kanter + Associates | October 17, 2018
202.791.0446 larry@lkasigns.com

EXHIBIT H TO LEASE
LOADING DOCKS AND DEDICATED GENERATOR AREA

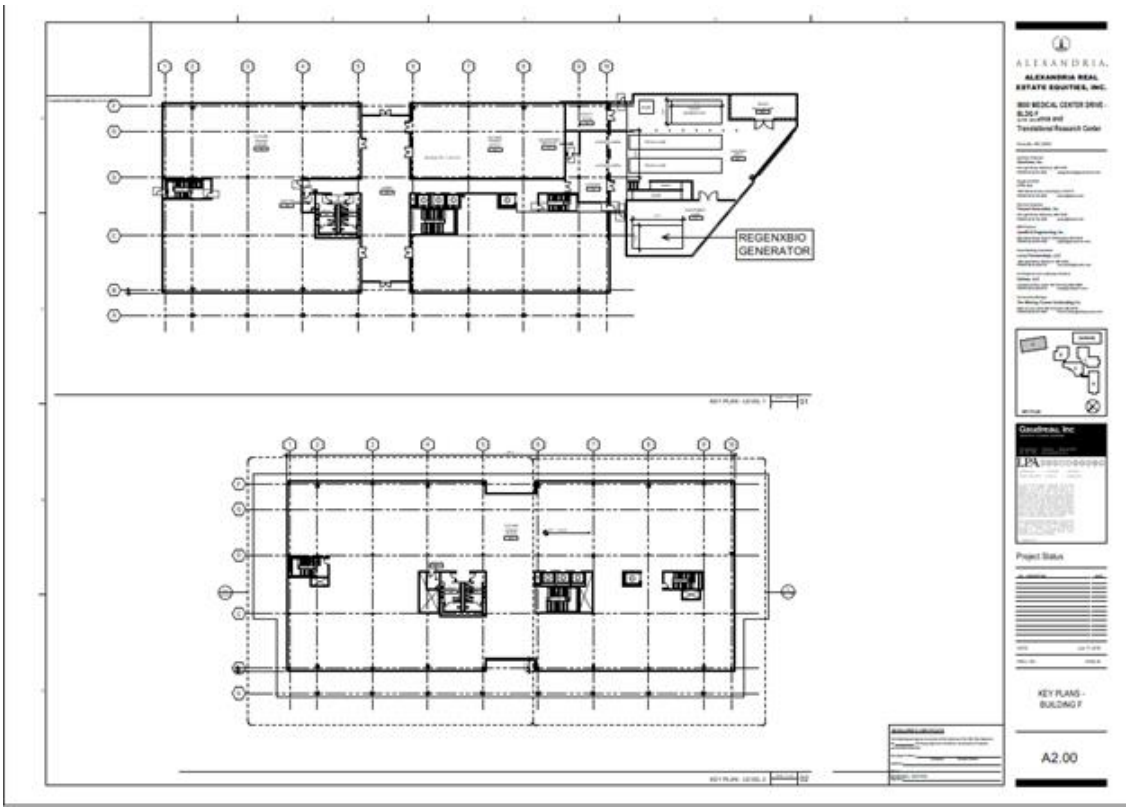


EXHIBIT I TO LEASE
TENANTS WITH SUPERIOR EXPANSION RIGHTS

None

EXHIBIT 31.1

CERTIFICATION

I, Kenneth T. Mills, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of REGENXBIO 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 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.

5. The registrant's other certifying officer 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: November 7, 2018

/s/ Kenneth T. Mills

Kenneth T. Mills
President and Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATION

I, Vittal Vasista, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of REGENXBIO 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 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.

5. The registrant's other certifying officer 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: November 7, 2018

/s/ Vittal Vasista

Vittal Vasista
Chief Financial Officer
(Principal Financial and Accounting Officer)

EXHIBIT 32.1

CERTIFICATION

In connection with the Quarterly Report of REGENXBIO Inc. (the "Registrant") on Form 10-Q for the quarter ended September 30, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Kenneth T. Mills, President, Chief Executive Officer and Director of the Registrant, and Vittal Vasista, Chief Financial Officer of the Registrant, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to their respective 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 Registrant.

Date: November 7, 2018

/s/ Kenneth T. Mills

Kenneth T. Mills
President and Chief Executive Officer
(Principal Executive Officer)

Date: November 7, 2018

/s/ Vittal Vasista

Vittal Vasista
Chief Financial Officer
(Principal Financial and Accounting Officer)

This certification is made solely for the purposes of 18 U.S.C. Section 1350, subject to the knowledge standard contained therein, and not for any other purpose. A signed original of this written statement required by Section 906 has been provided to the Registrant and will be retained by the Registrant and furnished to the United States Securities and Exchange Commission or its staff upon request.

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Registrant under the Securities Act of 1933 or the Securities Exchange Act of 1934 (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.