UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2019

OR

o **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: 001-37467

Catabasis Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**26-3687168**
(State or Other Jurisdiction of Incorporation or Organization)	(IRS Employer Identification No.)
100 High Street Floor 28 Boston, Massachusetts	**02110**
(Address of Principal Executive Offices)	(Zip Code)

(617) 349-1971

(Registrant's Telephone Number, Including Area Code)

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

Title of each class	Trading Symbol(s)	Name of exchange on which registered
Common Stock, par value $0.001 per share	**CATB**	**The Nasdaq Stock Market LLC**

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** x **No** o

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

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	o	Accelerated filer	o
Non-accelerated filer	x	Smaller reporting company	x
		Emerging growth company	x

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 accounting standards provided pursuant to Section 13(a) of the Exchange Act. x

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

As of October 31, 2019, there were 11,797,192 shares of the registrant's Common Stock, par value $0.001 per share, outstanding.

TABLE OF CONTENTS

CAUTIONARY NOTE CONCERNING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this Quarterly Report on Form 10-Q, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans and objectives of management and expected market growth are forward-looking statements. The words "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

These forward-looking statements include, among other things, statements about:

- our expectations regarding our ability to successfully conduct the PolarisDMD trial, and our expectations regarding the timing and results of such trial, including reporting top-line results of this trial in the fourth quarter of 2020, the goal of filing of a New Drug Application in 2021, and the potential consistency of data produced by this trial with prior results from our MoveDMD® trial, as well as any new data and analyses relating to the safety profile and potential clinical benefits of edasalonexent;
- our expectations regarding our ability to successfully conduct the GalaxyDMD open-label extension trial, including the anticipated announcement of data from this trial;
- our plans to identify, develop and commercialize novel therapeutics based on our SMART Linker™ drug discovery platform;
- ongoing and planned clinical trials for edasalonexent and other product candidates, whether conducted by us or by any future collaborators, including the timing of initiation of these trials and the anticipated announcement of results;
- our plans to enter into collaborations for the development and commercialization of product candidates;
- the potential benefits of any future collaboration;
- our ability to receive research and development funding and achieve anticipated milestones under any future collaborations;
- the timing of and our ability to obtain and maintain regulatory approvals for our product candidates;
- the rate and degree of market acceptance and clinical utility of any products for which we receive marketing approval;
- our commercialization, marketing and manufacturing capabilities and strategy;
- our intellectual property position and strategy;
- our ability to identify additional products or product candidates with significant commercial potential;
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- developments relating to our competitors and our industry; and
- the impact of government laws and regulations.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this Quarterly Report on Form 10-Q, particularly in the "Risk Factors" section, that could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, collaborations, joint ventures or investments that we may make or enter into.

PART I—FINANCIAL INFORMATION

Item 1. Financial Statements

Catabasis Pharmaceuticals, Inc.
Condensed Consolidated Balance Sheets
(In thousands, except share and per share data)

(Unaudited)

	September 30, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 17,765	$ 15,294
Short-term investments	22,850	22,276
Prepaid expenses and other current assets	2,111	1,345
Total current assets	42,726	38,915
Right-of-use asset	965	—
Other assets	143	254
Total assets	$ 43,834	$ 39,169
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 2,156	$ 1,408
Accrued expenses	2,476	2,763
Current portion of operating lease liabilities	929	—
Total current liabilities	5,561	4,171
Other long-term liabilities	—	56
Total liabilities	5,561	4,227
Commitments (Note 6)		
Stockholders' equity:		
Preferred stock, $0.001 par value per share, 5,000,000 shares authorized and no shares issued and outstanding	—	—
Common stock, $0.001 par value per share, 150,000,000 shares authorized; 11,715,286 and 7,141,996 shares issued and outstanding at September 30, 2019 and December 31, 2018, respectively	12	7
Additional paid-in capital	255,248	232,243
Accumulated other comprehensive loss	—	(4)
Accumulated deficit	(216,987)	(197,304)
Total stockholders' equity	38,273	34,942
Total liabilities and stockholders' equity	$ 43,834	$ 39,169

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

Catabasis Pharmaceuticals, Inc.
Condensed Consolidated Statements of Operations
(In thousands, except share and per share data)

(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Operating expenses:				
Research and development	4,697	3,897	14,054	13,383
General and administrative	1,985	2,111	6,287	6,900
Total operating expenses	6,682	6,008	20,341	20,283
Loss from operations	(6,682)	(6,008)	(20,341)	(20,283)
Other income (expense):				
Interest expense	—	(10)	—	(100)
Interest and investment income	214	177	697	252
Other (expense) income, net	(46)	162	(39)	321
Total other income, net	168	329	658	473
Net loss	$ (6,514)	$ (5,679)	$ (19,683)	$ (19,810)
Net loss per share - basic and diluted	$ (0.56)	$ (0.80)	$ (1.80)	$ (4.54)
Weighted-average common shares outstanding used in net loss per share - basic and diluted	11,624,232	7,103,842	10,945,765	4,360,395

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

Catabasis Pharmaceuticals, Inc.
Condensed Consolidated Statements of Comprehensive Loss
(In thousands)

(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net loss	$ (6,514)	$ (5,679)	$ (19,683)	$ (19,810)
Other comprehensive income:				
(Losses) gains on short-term investments	(1)	(5)	4	(5)
Total other comprehensive (loss) income:	(1)	(5)	4	(5)
Comprehensive loss	$ (6,515)	$ (5,684)	$ (19,679)	$ (19,815)

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

Catabasis Pharmaceuticals, Inc.
Condensed Consolidated Statements of Stockholders' Equity
(In thousands, except shares)

(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Common stock, shares				
Balance, beginning of period	11,553,937	7,103,843	7,141,996	2,364,526
Issuance of common stock for at-the-market offerings	161,349	—	564,590	539,026
Issuance of common stock and warrants in public offerings	—	—	4,000,000	4,200,000
Issuance of common stock upon exercise of common stock options and warrants	—	—	8,700	291
Balance, end of period	11,715,286	7,103,843	11,715,286	7,103,843
Common stock, par value				
Balance, beginning of period	$ 12	$ 7	$ 7	$ 2
Issuance of common stock for at-the-market offerings	—	—	1	1
Issuance of common stock and warrants in public offerings	—	—	4	4
Balance, end of period	$ 12	$ 7	$ 12	$ 7
Additional paid-in capital				
Balance, beginning of period	$ 253,821	$ 231,371	$ 232,243	$ 183,224
Issuance of common stock for at-the-market offerings	1,049	—	3,223	8,312
Issuance of common stock and warrants in public offerings	—	(26)	18,501	38,881
Issuance of common stock upon exercise of common stock options and warrants	—	—	54	4
Stock-based compensation expense	378	416	1,227	1,340
Balance, end of period	$ 255,248	$ 231,761	$ 255,248	$ 231,761
Accumulated deficit				
Balance, beginning of period	$ (210,473)	$ (185,565)	$ (197,304)	$ (171,434)
Net loss	(6,514)	(5,679)	(19,683)	(19,810)
Balance, end of period	$ (216,987)	$ (191,244)	$ (216,987)	$ (191,244)
Accumulated other comprehensive loss				
Balance, beginning of period	$ 1	$ —	$ (4)	$ —
Realized gain on short-term investments	(1)	(5)	4	(5)
Balance, end of period	$ —	$ (5)	$ —	$ (5)
Total stockholders' equity	$ 38,273	$ 40,519	$ 38,273	$ 40,519

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

Catabasis Pharmaceuticals, Inc.
Condensed Consolidated Statements of Cash Flows
(In thousands)

(Unaudited)

	Nine Months Ended September 30,	
	2019	2018
Operating activities		
Net loss	$ (19,683)	$ (19,810)
Reconciliation of net loss to net cash used in operating activities:		
Depreciation and amortization	23	111
Stock-based compensation expense	1,227	1,340
Accretion of discount/premium on investment securities	9	(4)
Non-cash interest expense	—	38
Gain on disposal of property and equipment	—	(297)
Services received in non-monetary exchange	18	8
Changes in assets and liabilities:		
Prepaid expenses and other current assets	(671)	(120)
Other assets	(25)	—
Right-of-use asset- operating	(36)	—
Accounts payable	682	274
Accrued expenses	(287)	267
Other liabilities	(56)	(3)
Net cash used in operating activities	(18,799)	(18,196)
Investing activities		
Purchases of short-term investments	(123,355)	(39,364)
Sales and maturities of short-term investments	122,777	16,000
Proceeds from sale of property and equipment	—	365
Net cash used in investing activities	(578)	(22,999)
Financing activities		
Proceeds from public offerings, net of issuance costs	18,505	38,885
Proceeds from at-the-market offering, net of issuance costs	3,289	8,313
Proceeds from exercise of common stock options and warrants	54	4
Payments on borrowing	—	(2,500)
Net cash provided by financing activities	21,848	44,702
Net increase in cash, cash equivalents and restricted cash	2,471	3,507
Cash, cash equivalents and restricted cash, beginning of period	15,407	16,482
Cash, cash equivalents and restricted cash, end of period	$ 17,878	$ 19,989
Supplemental disclosure of cash flow information		
Cash paid for interest	$ —	$ 79
Non-cash financing activities:		
At-the-market issuance costs included in current liabilities	$ 65	$ —

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

Catabasis Pharmaceuticals, Inc.
Notes to Condensed Consolidated Financial Statements
(Unaudited)

1. Organization and Operations

The Company

Catabasis Pharmaceuticals, Inc. (the "Company") is a clinical-stage biopharmaceutical company. The Company's lead program is edasalonexent, formerly known as CAT-1004, an oral small molecule designed to inhibit NF-kB, or nuclear factor kappa-light-chain-enhancer of activated B cells, in development for the treatment of Duchenne muscular dystrophy ("DMD"). The Company believes edasalonexent has the potential to be a foundational therapy for all patients affected by DMD, regardless of the underlying dystrophin mutation. DMD is an ultimately fatal genetic disorder involving progressive muscle degeneration. The United States Food and Drug Administration has granted orphan drug, fast track and rare pediatric disease designations to edasalonexent for the treatment of DMD. The European Commission has granted orphan medicinal product designation to edasalonexent for the treatment of DMD. The Company was incorporated in the State of Delaware on June 26, 2008.

Liquidity

The Company has entered into various sales agreements with Cowen and Company LLC, ("Cowen"), pursuant to which the Company could issue and sell shares of common stock, par value of $0.001 per share, under at-the-market offering programs (the "ATM Programs"). Shares sold pursuant to these sales agreements were sold pursuant to shelf registration statements, one of which became effective on July 19, 2016 and was replaced by a new shelf registration statement effective May 22, 2019. The Company pays Cowen 3% of the gross proceeds from any common stock sold through these sales agreements. As of September 30, 2019, the Company has $48.5 million remaining available under its current sales agreement.

During the nine months ended September 30, 2019, the Company sold an aggregate of 564,590 shares of common stock pursuant to the ATM Programs, at an average price of $6.32 per share, for net proceeds of $3.2 million after deducting sales commissions and offering expenses.

On February 6, 2019, the Company entered into an underwriting agreement with Oppenheimer & Co. Inc. relating to an underwritten public offering (the "February 2019 Financing") of 4,000,000 shares of common stock and accompanying warrants to purchase up to 2,000,000 shares of common stock, at a combined price to the public of $5.00 per unit, for net proceeds of $18.5 million.

As of September 30, 2019, the Company had an accumulated deficit of $217.0 million. The Company has been primarily involved with research and development activities and has incurred operating losses and negative cash flows from operations since its inception.

The Company is subject to a number of risks similar to other life science companies, including, but not limited to, successful discovery and development of its drug candidates, raising additional capital, development by its competitors of new technological innovations, protection of proprietary technology and regulatory approval and market acceptance of the Company's products. The Company anticipates that it will continue to incur significant operating losses for the next several years as it continues to develop its product candidates.

As of September 30, 2019, the Company had available cash, cash equivalents and short-term investments of $40.6 million. Based on the Company's current operating plan, the Company believes it has sufficient cash, cash equivalents and short-term investments to fund operations through 2020.

The Company will require substantial additional capital to fund operations. The Company has not generated any product revenues and has financed its operations primarily through public offerings and private placements of its equity securities. There can be no assurance that the Company will be able to obtain additional debt or equity financing or generate product revenue or revenues from collaborative partners, on terms acceptable to the Company, on a timely basis or at all. The failure of the Company to obtain sufficient funds on acceptable terms when needed could have a material adverse effect on the Company's business, results of operations, and financial condition.

2. Summary of Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The accompanying financial statements and the related disclosures are unaudited and have been prepared in accordance with United States generally accepted accounting principles ("U.S. GAAP"). Additionally, certain information and footnote disclosures normally included in the Company's annual financial statements have been condensed or omitted from this report. Accordingly, these condensed financial statements should be read in conjunction with the financial statements as of and for the year ended December 31, 2018 and notes thereto included in the 2018 Annual Report on Form 10-K.

The unaudited interim condensed consolidated financial statements have been prepared on the same basis as the audited financial statements except for the adoption of the new lease accounting standard discussed below. In the opinion of the Company's management, the accompanying unaudited interim condensed consolidated financial statements contain all adjustments, including those adjustments that are of a normal and recurring nature, which are necessary to fairly present the Company's financial position as of September 30, 2019, the results of its operations for the three and nine months ended September 30, 2019 and 2018, the statement of stockholders' equity for the three and nine months ended September 30, 2019 and 2018 and its cash flows for the nine months ended September 30, 2019 and 2018. The results for the three and nine months ended September 30, 2019 are not necessarily indicative of the results for the year ending December 31, 2019, or for any future period.

The accompanying condensed consolidated financial statements include the accounts of the Company and its wholly-owned subsidiary, Catabasis Securities Corporation. All intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of the Company's condensed consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. Actual results could differ from such estimates.

The Company utilizes certain estimates to record expenses relating to research and development contracts. These contract estimates, which are primarily related to the length of service of each contract and the amount of service provided as of each measurement date, are determined by the Company based on input from internal project management, as well as from third-party service providers.

Stock-Based Compensation

The Company accounts for its stock-based compensation awards in accordance with Accounting Standards Codification ("ASC") Topic 718, *Compensation—Stock Compensation (*"ASC 718"). ASC 718 requires all share-based payments to employees, including grants of employee stock options, to be recognized in the statements of operations based on their grant date fair values. For granted stock options, the Company estimates the grant date fair value of each option award using the Black-Scholes option-pricing model. The use of the Black-Scholes option-pricing model requires management to make assumptions with respect to the expected term of the option, the expected volatility of the common stock consistent with the expected term of the option, risk-free interest rates and expected dividend yields of the common stock.

For awards subject to service-based vesting conditions, the Company recognizes stock-based compensation expense equal to the grant date fair value of stock options on a straight-line basis over the requisite service period.

The Company expenses restricted stock awards based on the fair value of the award on a straight-line basis over the associated service period of the award.

During the three and nine months ended September 30, 2019 and 2018, the Company recorded stock-based compensation expense, which was allocated as follows in the condensed consolidated statements of operations (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Research and development	$ 162	$ 168	$ 462	$ 505
General and administrative	216	248	765	835
Total	$ 378	$ 416	$ 1,227	$ 1,340

Net Loss Per Share

Basic net loss per share is calculated by dividing net loss by the weighted average shares outstanding during the period, without consideration for common stock equivalents. Diluted net loss per share is calculated by adjusting weighted average shares outstanding for the dilutive effect of common stock equivalents outstanding for the period, determined using the treasury-stock method. For purposes of the Company's dilutive net loss per share calculation, stock options and warrants to purchase common stock were considered to be common stock equivalents but were excluded from the calculation of diluted net loss per share, as their effect would be anti-dilutive; therefore, basic and diluted net loss per share were the same for all periods presented.

The following common stock equivalents were excluded from the calculation of diluted net loss per share for the periods indicated because including them would have had an anti-dilutive effect:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Stock options	843,183	448,946	843,183	448,946
Common stock warrants	6,193,749	4,202,457	6,193,749	4,202,457
	7,036,932	4,651,403	7,036,932	4,651,403

Cash, Cash Equivalents and Restricted Cash

The reconciliation of cash, cash equivalents and restricted cash reported within the applicable balance sheet that sum to the total of the same such amount shown in the statement of cash flows is as follows:

	September 30,	
	2019	2018
Cash and cash equivalents	$ 17,765	$ 19,876
Restricted cash (1)	113	113
Total	$ 17,878	$ 19,989

(1) Included in prepaid expenses and other current assets as of September 30, 2019 and other assets as of September 30, 2018 in the condensed consolidated balance sheets

Leases

Effective January 1, 2019, the Company determines if an arrangement is a lease at inception. Operating leases are included in right-of-use ("ROU") lease assets, current portion of lease obligations, and long-term lease obligations on the Company's balance sheets. The Company does not currently hold any financing leases.

ROU lease assets represent the Company's right to use an underlying asset for the lease term and lease obligations represent the Company's obligation to make lease payments arising from the lease. Operating ROU lease assets and obligations are recognized at the commencement date based on the present value of lease payments over the lease term. As the Company's facility lease does not provide an implicit rate, the Company uses its estimated incremental borrowing rate based on the information available at the commencement date in determining the present value of lease payments. The Company's ROU lease asset also includes any lease payments made and excludes lease incentives. The Company's facility lease includes options to terminate the lease which would affect the lease period when it is reasonably certain that the Company will exercise that option. Lease expense for lease payments under the facility lease is recognized on a straight-line basis over the lease term.

Recent Accounting Pronouncements - Adopted

In February 2016, the Financial Accounting Standards Board, ("FASB") issued Accounting Standards Update ("ASU") 2016-02, *Leases*. This standard amends the existing guidance to require lessees to present most leases on their balance sheets and recognize corresponding expenses on their statements of operations. The FASB also provided practical expedients that give lessors an option to

combine non-lease and associated lease components when certain criteria are met and requires a lessor to account for the combined component in accordance with the new revenue standard if the associated non-lease components are the predominant component. The Company adopted this standard effective January 1, 2019 by recording the cumulative effect on the date of the adoption. The Company has elected the package of practical expedients permitted under the transition guidance in ASC Topic 842, *Leases*, ("ASC Topic 842"). Accordingly, the Company accounted for its existing operating leases as operating leases under the new guidance, without reassessing (a) whether the contracts contain a lease under ASC Topic 842, (b) whether classification of the operating leases would be different in accordance with ASC Topic 842, or (c) whether the unamortized initial direct costs before transition adjustments would have met the definition of initial direct costs in ASC Topic 842 at lease commencement. As a result of the adoption of the new lease accounting guidance, the Company recognized on January 1, 2019 a lease liability and right-of-use asset of approximately $1.9 million. The lease liability represents the present value of the remaining lease payments, discounted using the Company's estimated incremental borrowing rate of 7.49%. The ROU asset represents the lease liability adjusted for any prepaid and accrued rent payments as well as any remaining liability associated with an active sublease. This standard did not have a material impact on the Company's cash flows from operations and had no impact on the Company's operating results. The most significant impact was the recognition of ROU assets and lease obligations for operating leases.

Recent Accounting Pronouncements - Not Yet Adopted

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies and adopted by the Company as of the specified effective date. Unless otherwise discussed, the Company believes that the impact of recently issued standards that are not yet effective will not have a material impact on its financial position or results of operations upon adoption.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326).* This standard requires a financial asset to be presented at amortized cost basis at the net amount expected to be collected. It also requires that credit losses relating to available-for-sale debt securities should be recorded through an allowance for credit losses. This amendment is effective for annual reporting periods beginning after December 15, 2019. The Company is currently evaluating the impact that this standard will have on its consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820)*. This standard includes amendments regarding changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements, and disclosure requirements of measurement uncertainty. This amendment is effective for annual reporting periods beginning after December 15, 2019. The Company is currently evaluating the impact that this standard will have on its consolidated financial statements.

Summary of Significant Accounting Policies

The Company's significant accounting policies are described in Note 2, "Summary of Significant Accounting Policies," in the 2018 Annual Report on Form 10-K, and there were no significant changes to such policies in the three and nine months ended September 30, 2019 that had a material impact on the Company's results of operations or financial position, except the impacts on the Company's balance sheet related to the adoption of the new leasing standard in the current year.

3. Financial Instruments

The tables below present information about the Company's assets and liabilities that are measured at fair value on a recurring basis as of September 30, 2019 and December 31, 2018 and indicate the fair value hierarchy of the valuation techniques the Company utilized to determine such fair value. In general, fair values determined by Level 1 inputs utilize observable inputs such as quoted prices in active markets for identical assets or liabilities. Fair values determined by Level 2 inputs utilize data points that are either directly or indirectly observable, such as quoted prices, interest rates and yield curves. Fair values determined by Level 3 inputs utilize unobservable data points for which there is little or no market data, which require the Company to develop its own assumptions for the asset or liability. There were no transfers between fair value measurement levels during the three or nine months ended September 30, 2019 or 2018.

The Company's investment portfolio may include fixed income securities that do not always trade on a daily basis. As a result, the pricing services used by the Company apply other available information as applicable through processes such as benchmark yields, benchmarking of like securities, sector groupings and matrix pricing to prepare valuations. The Company validates the prices provided by its third party pricing services by obtaining market values from other pricing sources and analyzing pricing data in certain instances. The Company also invests in certain reverse repurchase agreements which are collateralized by deposits in the form of U.S. Government Securities and Obligations for an amount no less than 102% of their value. The Company does not record an asset or liability for the collateral as the Company is not permitted to sell or re-pledge the collateral. The collateral has at least the prevailing credit rating of

U.S. Government Treasuries and Agencies. The Company utilizes a third party custodian to manage the exchange of funds and ensure that collateral received is maintained at 102% of the value of the reverse repurchase agreements on a daily basis.

Below is a summary of assets measured at fair value on a recurring basis (in thousands):

	As of September 30, 2019			
	Quoted Prices in Active Markets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Assets:				
Cash and cash equivalents:				
Money market funds	$ 6,144	$ —	$ —	$ 6,144
Corporate debt securities	—	7,506	—	7,506
Reverse repurchase agreements	—	2,000	—	2,000
Short-term investments:				
Corporate debt securities	—	1,850	—	1,850
Reverse repurchase agreements	—	21,000	—	21,000
Total assets	$ 6,144	$ 32,356	$ —	$ 38,500

	As of December 31, 2018			
	Quoted Prices in Active Markets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Assets:				
Cash and cash equivalents:				
Money market funds	$ 5,956	$ —	$ —	$ 5,956
Corporate debt securities	—	1,948	—	1,948
Reverse repurchase agreements	—	3,000	—	3,000
Short-term investments:				
Corporate debt securities	—	7,276	—	7,276
Reverse repurchase agreements	—	15,000	—	15,000
Total assets	$ 5,956	$ 27,224	$ —	$ 33,180

At September 30, 2019 and December 31, 2018, the Company's cash equivalents consisted of money market funds, corporate debt securities and U.S. reverse repurchase agreements. At September 30, 2019, and December 31, 2018, cash equivalents approximated their fair value due to their short-term nature.

4. Short-Term Investments

The following table summarizes the short-term investments held at September 30, 2019 and December 31, 2018 (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
September 30, 2019				
Corporate debt securities	$ 1,850	$ —	$ —	$ 1,850
Reverse repurchase agreements	21,000	—	—	21,000
Total	$ 22,850	$ —	$ —	$ 22,850

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
December 31, 2018				
Corporate debt securities	$ 7,280	$ —	$ (4)	$ 7,276
Reverse repurchase agreements	15,000	—	—	15,000
Total	$ 22,280	$ —	$ (4)	$ 22,276

The contractual maturities of all short-term investments held at September 30, 2019 and December 31, 2018 were one year or less. There were seven short-term investments in an unrealized loss position at December 31, 2018, none of which had been in an unrealized loss position for more than 12 months. The aggregate fair value of these investments was approximately $7.3 million. There were no short-term investments in an unrealized loss position at September 30, 2019. The Company did not hold any investments with other-than-temporary impairments at September 30, 2019 and December 31, 2018.

Gross realized gains and losses on the sales of short-term investments are included in other income, net. Unrealized holding gains or losses for the period that have been included in accumulated other comprehensive income, as well as gains and losses reclassified out of accumulated other comprehensive income into other income, net were not material to the Company's condensed consolidated results of operations. The cost of investments sold or the amount reclassified out of the accumulated other comprehensive income into other income, net is based on the specific identification method for purposes of recording realized gains and losses. All proceeds in the three and nine-month periods ended September 30, 2019 and 2018 related to maturities of underlying investments. The gains on proceeds from maturities of short-term investments were not material to the Company's condensed consolidated results of operations for the three or nine months ended September 30, 2019 and 2018.

5. Accrued Expenses

Accrued expenses consisted of the following (in thousands):

	September 30, 2019	December 31, 2018
Accrued compensation	1,033	1,241
Accrued contracted research costs	$ 919	$ 680
Accrued professional fees	388	393
Accrued other	106	172
Accrued franchise tax	30	168
Accrued severence	—	109
Total	$ 2,476	$ 2,763

6. Commitments

Operating Leases

In November 2010, the Company entered into an operating lease for office and laboratory space, which has been amended multiple times. Based on the latest amendment, the lease agreement includes escalating rent payments and is effective through June 30, 2020. The Company is recognizing rent expense on a straight-line basis over the lease term.

The following is a maturity analysis of the annual undiscounted cash flows of the operating lease liabilities as of September 30, 2019 (in thousands):

Period Ending December 31,	Amount
2019	360
2020	721
Total minimum lease payments	$ 1,081

Rent expense was $0.1 million and $0.3 million for the three months ended September 30, 2019 and 2018, respectively. Rent expense was $0.2 million and $1.0 million for the nine months ended September 30, 2019 and 2018, respectively. During the three months ended September 30, 2019 and 2018, the Company paid $0.4 and $0.3 million in lease payments, respectively. During the nine months ended September 30, 2019 and 2018, the Company paid $1.1 million and $1.0 million in lease payments, respectively.

On October 15, 2018, the Company entered into a short-term lease with Inzen Therapeutics ("Inzen"), to sublease a portion of the Company's facility. The sublease term is from October 15, 2018 through June 30, 2020. Inzen is obligated to pay the Company approximately $0.3 million in base rent during the remainder of the year ended December 31, 2019 and $0.5 million during the year ended December 31, 2020. The Company is still obligated to all payment terms pursuant to the lease agreement, as amended. During the three and nine months ended September 30, 2019, the Company received $0.3 and $0.8 million in payments from Inzen, respectively, which was recorded as a deduction to rent expense in the accompanying condensed consolidated statement of operations.

On September 9, 2019, the Company, as subtenant, and Allied Minds, LLC ("Allied Minds") entered into a Sublease (the "Sublease") with respect to approximately 11,472 square feet of space leased by Allied Minds pursuant to a lease agreement by and between SPUS7 High Street, LP and Allied Minds. The Sublease term will commence on November 1, 2019 and the Company's payment of rent under the Sublease will commence on January 1, 2020. The Sublease term is scheduled to end on July 31, 2022 or upon any earlier termination of the original lease agreement between SPUS7 High Street, LP and Allied Minds. Under the terms of the Sublease, the Company is obligated to pay Allied Minds aggregate rent of approximately $1.9 million.

7. Stockholders' Equity

Preferred Stock

As of September 30, 2019, the Company had 5,000,000 shares of preferred stock authorized for issuance, $0.001 par value per share, with none issued or outstanding. Preferred stock may be issued from time to time in one or more series, each series to have such terms as stated or expressed in the resolutions providing for the issue of such series adopted by the board of directors of the Company. Preferred stock which may be redeemed, purchased or acquired by the Company may be reissued except as otherwise provided by law.

Common Stock Warrants

February 2019 Warrants

In the February 2019 Financing, the Company issued warrants to purchase 2,000,000 shares of common stock with an exercise price of $6.25 per share, which were immediately exercisable upon issuance and will expire five years from the date of issuance.

The terms of the warrants include certain provisions related to fundamental transactions, a cashless exercise provision in the event registered shares are not available, and do not include any mandatory redemption provisions. Therefore, the warrants have been classified in stockholders' equity. Any changes to the fair value of the warrants will not be recognized so long as the warrants continue to be equity classified.

As of September 30, 2019, warrants to purchase 1,991,300 shares that were issued in the February 2019 Financing were outstanding with a remaining contractual life of 4.36 years.

June 2018 Warrants

On June 19, 2018, the Company entered into an underwriting agreement with Oppenheimer & Co. Inc. relating to an underwritten public offering (the "June 2018 Financing") of 4,200,000 shares of the Company's common stock, par value $0.001 per share, and accompanying warrants to purchase up to 4,200,000 shares of common stock. The warrants were issued at an exercise price of $12.00 per share, and were immediately exercisable upon issuance expiring five years from the date of issuance.

The terms of the warrants include certain provisions related to fundamental transactions, a cashless exercise provision in the event registered shares are not available, and do not include any mandatory redemption provisions. Therefore, the warrants have been classified in stockholders' equity. Any changes to the fair value of the warrants will not be recognized so long as the warrants continue to be equity classified.

As of September 30, 2019, all warrants issued in the June 2018 Financing were outstanding with a remaining contractual life of 3.73 years.

8. Common Stock Reserved for Future Issuance

The Company has reserved for future issuance the following shares of common stock:

	September 30, 2019	December 31, 2018
Warrants for the purchase of Common Stock	6,193,749	4,202,449
Options outstanding to purchase Common Stock	843,183	433,389
Options available for future issuance to purchase Common Stock	468,123	877,917
Shares reserved for the employee stock purchase plan	112,481	76,011
Total	7,617,536	5,589,766

9. Stock Incentive Plans

Prior to the Company's initial public offering in June 2015 (the "IPO"), the Company granted awards to eligible participants under its 2008 Equity Incentive Plan. In May 2015, the Company's board of directors adopted and, in June 2015, the Company's stockholders approved the 2015 Stock Incentive Plan ("2015 Plan"), which became effective immediately prior to the effectiveness of the IPO. Subsequent to the IPO, option grants are awarded to eligible participants only under the 2015 Plan.

The 2015 Plan provides for the grant of incentive stock options, non-statutory stock options, restricted stock awards, restricted stock units, stock appreciation rights and other stock-based awards. The Company's employees, officers, directors and consultants and advisors are eligible to receive awards under the 2015 Plan.

Terms of stock option agreements, including vesting requirements, are determined by the Company's board of directors, subject to the provisions of the applicable stock incentive plan. Options granted by the Company generally vest ratably over four years, with a one-year cliff, and options are exercisable from the date of grant for a period of ten years. For options granted through September 30, 2019, the exercise price or purchase price, as applicable, equaled the estimated fair value of the common stock as determined by the Company's board of directors on the date of grant.

A summary of the Company's stock option activity and related information follows:

	Shares	Weighted-Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2018	433,389	$ 29.05	7.97	$ —
Granted	454,320	$ 4.86		
Cancelled or forfeited	(44,526)	$ 32.27		
Outstanding at September 30, 2019	843,183	$ 15.85	8.43	$ 352
Vested and Exercisable at September 30, 2019	265,475	$ 35.74	6.71	$ 4

There were no options exercised in the three and nine months ended September 30, 2019 and the three months ended September 30, 2018. The total intrinsic value of options exercised for the nine months ended September 30, 2018 was $1 thousand. The total fair value of employee and non-employee options vested for the three months ended September 30, 2019 and 2018 was $0.5 million and $0.3 million, respectively. The total fair value of employee and non-employee options vested for the nine months ended September 30, 2019 and 2018 was $1.3 million and $1.4 million, respectively. The weighted-average grant date fair value of options granted to employees and non-employees for the three months ended September 30, 2019 and 2018 was $4.10 and $4.64, respectively. The weighted-average grant date fair value of options granted to employees and non-employees for the nine months ended September 30, 2019 and 2018 was $3.25 and $6.64, respectively.

At September 30, 2019, the total unrecognized compensation expense related to unvested stock option awards was $2.3 million. The Company expects to recognize that cost over a weighted-average period of approximately 2.3 years.

10. Subsequent Events

The Company considers events or transactions that occur after the balance sheet date but prior to the issuance of the financial statements to provide additional evidence for certain estimates and to identify matters that require additional disclosure. Subsequent events have been evaluated as required.

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 together with our condensed consolidated financial statements and the related notes and other financial information included elsewhere in this Quarterly Report on Form 10-Q and the audited consolidated financial statements and notes thereto included in our most recent Annual Report on Form 10-K. Some of the information contained in this discussion and analysis or set forth elsewhere in this Quarterly Report on Form 10-Q, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. You should review the "Risk Factors" section 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 clinical-stage biopharmaceutical company focused on the discovery, development and commercialization of novel therapeutics. Our lead product candidate is edasalonexent, formerly known as CAT-1004, an oral small molecule that inhibits NF-kB, or nuclear factor kappa-light-chain-enhancer of activated B cells, in development for the treatment of Duchenne muscular dystrophy, or DMD. We believe edasalonexent has the potential to be a foundational therapy for all patients affected by DMD regardless of the underlying dystrophin mutation. DMD is an ultimately fatal genetic disorder involving progressive muscle degeneration. The United States Food and Drug Administration, or FDA, has granted orphan drug, fast track and rare pediatric disease designations to edasalonexent for the treatment of DMD. The European Commission, or EC, has granted orphan medicinal product designation to edasalonexent for the treatment of DMD.

We initiated a global Phase 3 trial of edasalonexent for the treatment of DMD in September 2018, which we refer to as the PolarisDMD trial. The PolarisDMD trial is a randomized, double-blind, placebo-controlled trial, and is designed to evaluate the efficacy and safety of edasalonexent for registration purposes. We announced in September 2019 that the PolarisDMD trial completed enrollment and exceeded our target enrollment of 125 boys. We enrolled 131 boys between the ages of four and seven (up to eighth birthday), regardless of mutation type, who had not been on steroids for at least six months, across all eight countries where the clinical trial is active. The primary efficacy endpoint is change in North Star Ambulatory Assessment, or NSAA, score after 12 months of treatment with edasalonexent compared to placebo. Key secondary endpoints are the age-appropriate timed function tests: time to stand, 4-stair climb and 10-meter walk/run. Assessments of growth, cardiac and bone health are also included in the trial. Top-line results from the trial are expected in the fourth quarter of 2020. Our goal is to submit a New Drug Application for edasalonexent for the treatment of DMD in 2021. The trial design was informed by discussions with regulatory authorities, as well as input from treating physicians, families of boys affected by DMD and patient advocacy organizations.

Our previous trial, the MoveDMD Phase 1/2 trial, also enrolled ambulatory boys four to seven years old with a genetically confirmed diagnosis of DMD who were steroid naive or had not used steroids for at least six months prior to the trial. Boys enrolled in the trial were not limited to any specific dystrophin mutations and the 31 boys in the trial had 26 different dystrophin mutations. The MoveDMD trial was conducted in three sequential parts, Phase 1, Phase 2, and an open-label extension. In Phase 1 of the MoveDMD trial, we assessed the safety, tolerability and pharmacokinetics of edasalonexent in 17 patients, following seven days of dosing, and we reported in January 2016 that all three doses of edasalonexent tested were generally well tolerated with no safety signals observed and there were no serious adverse events and no drug discontinuations. In the Phase 2 portion of the trial, we assessed the effects of edasalonexent using magnetic resonance imaging, or MRI, T2 as an early biomarker at 12 weeks, and announced in January 2017 that the primary efficacy endpoint of average change from baseline to week 12 in the MRI T2 composite measure of lower leg muscles for the pooled edasalonexent treatment groups compared to placebo was not met, although we observed directionally positive results in the 100/mg/kg/day edasalonexent treatment group that were not statistically significant. Subsequently, in the open-label extension of the MoveDMD trial, we observed improvement in the rate of change in lower leg composite MRI T2 through 72 weeks on 100 mg/kg of edasalonexent treatment compared to the off-treatment control period.

We have completed key efficacy and safety assessments from the MoveDMD trial. In the open-label extension of the MoveDMD trial through 72 weeks of oral 100 mg/kg/day edasalonexent treatment, we observed preserved muscle function and consistent improvements in all four assessments of muscle function: NSAA score, time to stand, 4-stair climb and 10-meter walk/run, compared to the rates of change in the control period for boys prior to receiving edasalonexent treatment. Additionally, supportive changes in non-effort-based measures of muscle health were seen, supporting the durability of edasalonexent treatment effects. Specifically, we observed, in the 100 mg/kg/day treatment group, that all four muscle enzymes tested (creatine kinase, alanine

aminotransferase, aspartate aminotransferase and lactate dehydrogenase) were significantly decreased compared to baseline following edasalonexent treatment at 12 weeks and later time points through 72 weeks ($p<0.05$). Through 72 weeks of treatment, edasalonexent continued to be well tolerated with no safety signals observed in the MoveDMD trial. Boys treated with edasalonexent continued to follow age-appropriate growth curves with age-appropriate increases in weight and height and overall body mass index trended down to age-normative values. We also observed that the heart rate of the boys significantly decreased toward age-normative values with over a year and a half period of edasalonexent treatment.

We initiated a new open-label extension trial in March 2019, which we refer to as the GalaxyDMD trial. The remaining boys that were participating in the MoveDMD trial open-label extension transitioned to the GalaxyDMD trial and their eligible siblings are also able to enroll. In addition, when boys complete the 12-month PolarisDMD trial, they are given the option to receive open-label edasalonexent in the GalaxyDMD trial. The GalaxyDMD trial is designed to provide longer term safety data to support registration filings.

In August 2019, we entered into a preclinical research collaboration with the Jain Foundation, a non-profit foundation whose mission is to cure muscular dystrophies caused by dysferlin protein deficiency, to study edasalonexent in Dysferlinopathy. Dysferlinopathy, which includes Limb-girdle muscular dystrophy type 2B and Miyoshi myopathy, is a serious rare disease that causes progressive muscle weakness for which there is currently no approved treatment option. In Dysferlinopathy, muscles lack dysferlin and as a result NF-kB is chronically activated. Edasalonexent, an oral small molecule designed to inhibit NF-kB, has the potential to slow disease progression in dysferlin-deficient populations. Under our collaboration, we and the Jain Foundation are conducting a preclinical study to evaluate the potential of edasalonexent as a therapeutic intervention for Dysferlinopathy by measuring disease progression in dysferlin-deficient mice treated with edasalonexent. Initial results are expected in the first half of 2020.

In addition to edasalonexent, we have developed CAT-5571 as a potential treatment for cystic fibrosis, or CF. CAT-5571 is an oral small molecule that is designed to activate autophagy, a mechanism for recycling cellular components and digesting pathogens, which is important for host defenses and is depressed in CF. We have completed investigational new drug, or IND, application-enabling activities for CAT-5571.

As of September 30, 2019, we owned six issued U.S. patents with composition of matter and method of use claims directed to edasalonexent. These patents are expected to expire in 2029 without taking into account potential patent term extensions. We also owned five issued U.S. patents with composition of matter and method of use claims directed to CAT-5571. These patents are expected to expire between 2030 and 2035, without taking into account potential patent term extensions. In addition, our patent portfolio includes over 70 issued foreign patents, three pending U.S. patent applications, four pending international patent applications, and 18 pending foreign patent applications.

Since our inception in June 2008, we have devoted substantially all of our resources to developing our proprietary platform technology, identifying potential product candidates, undertaking preclinical studies and conducting clinical trials for three clinical-stage compounds, building our intellectual property portfolio, organizing and staffing our company, business planning, raising capital, and providing general and administrative support for these operations. To date, we have primarily financed our operations through private placements of our preferred stock, registered offerings of our common stock, including our initial public offering, or IPO, as well as a secured debt financing. From our inception through September 30, 2019, we raised an aggregate of $268.8 million through various private placements of preferred stock, our IPO, debt financing as well as various other registered equity offerings, including underwritten public offerings, at-the-market, or ATM, offerings, and stock option and warrant exercises.

Financial Overview

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research activities, including our drug discovery efforts, and the development of our product candidates, which include:

- employee-related expenses including salaries, benefits and stock-based compensation expense;
- expenses incurred under agreements with third parties, including contract research organizations that conduct clinical trials and research and development and preclinical activities on our behalf;
- the cost of consultants;
- the cost of lab supplies and acquiring, developing and manufacturing study materials; and
- facilities and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, insurance and other supplies.

Research and development costs are expensed as incurred. Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are deferred and capitalized. The capitalized amounts are expensed as the related goods are delivered or the services are performed.

The following summarizes our most advanced current research and development programs:

- *Edasalonexent for the treatment of DMD* - Edasalonexent is a conjugate of salicylic acid and the omega-3 fatty acid docosahexaenoic acid, or DHA, a naturally occurring unsaturated fatty acid with anti-inflammatory properties, based on our proprietary Safely Metabolized And Rationally Targeted linker, or SMART Linker, drug discovery platform. We designed edasalonexent to inhibit NF-kB, a key link between loss of dystrophin and disease pathology that plays a fundamental role in the initiation and progression of skeletal and cardiac muscle disease in DMD. We reported results from the Phase 1 portion of the MoveDMD trial in January 2016 and reported top-line safety and efficacy results for the 12-week placebo-controlled Phase 2 portion of the trial in January 2017. In July 2016, we initiated an open-label extension of the MoveDMD trial, and we reported efficacy and safety results from the open-label extension in October 2017, February 2018, April 2018, October 2018, February 2019 and April 2019 reflecting data through 24, 36, 48, 60 and 72 weeks of edasalonexent treatment. In March 2019, we launched the GalaxyDMD trial. The remaining boys participating in the MoveDMD trial open-label extension transitioned to the GalaxyDMD trial, which is designed to provide longer term safety data to support registration filings. In September 2018, we initiated the global Phase 3 PolarisDMD trial of edasalonexent for the treatment of DMD, regardless of mutation type, and completed enrollment in September 2019. We expect to report top-line results from the global Phase 3 PolarisDMD trial in the fourth quarter of 2020. The PolarisDMD trial is designed to evaluate the efficacy and safety of edasalonexent in patients with DMD and is intended to support an application for commercial registration of edasalonexent. When boys complete the 12-month PolarisDMD trial, they are given the option to receive open-label edasalonexent in the Galaxy DMD trial.

- *Edasalonexent for the treatment of Becker Muscular Dystrophy, or BMD* — We are evaluating the potential benefits of edasalonexent treatment in BMD and investigating potential approaches for clinical trials in BMD.

- *Edasalonexent for the treatment of Dysferlinopathy* — We are evaluating the potential benefits of edasalonexent treatment in Dysferlinopathy, which includes Limb-girdle muscular dystrophy type 2B and Miyoshi myopathy, through a preclinical study in collaboration with the Jain Foundation.

- *CAT-5571* - CAT-5571 is a SMART Linker conjugate that contains cysteamine, a naturally occurring molecule that is a degradation product of the amino acid cysteine, and DHA. CAT-5571 is a potential oral therapy to treat CF. CAT-5571 is a small molecule designed to activate autophagy, a mechanism for recycling cellular components and digesting pathogens, which is important for host defenses and is depressed in CF. We have completed IND-enabling activities for CAT-5571.

We typically use our employee, consultant and infrastructure resources across our development programs. We track outsourced development costs by product candidate or development program, but we do not allocate personnel costs, other internal costs or external consultant costs to specific product candidates or development programs. We record our research and development expenses net of any research and development tax incentives we are entitled to receive from government authorities.

The following table summarizes our research and development expenses by program (in thousands):

	Nine Months Ended September 30,	
	2019	2018
Edasalonexent	$ 9,375	$ 5,720
CAT-5571	11	526
Other research and platform programs	—	546
Costs not directly allocated to programs:		
Employee expenses including cash compensation, benefits and stock-based compensation	3,740	5,244
Facilities	168	810
Consultants and professional expenses, including stock-based compensation	504	240
Other	256	297
Total costs not directly allocated to programs	4,668	6,591
Total research and development expenses	$ 14,054	$ 13,383

Since inception of the edasalonexent and the CAT-5571 programs, total direct expenses to support the programs have been $46.8 million and $4.2 million, respectively.

The successful development of our product candidates is highly uncertain. Accordingly, at this time, we cannot reasonably estimate the nature, timing and costs of the efforts that will be necessary to complete the remainder of the development of these product candidates. We are also unable to predict when, if ever, material net cash inflows will commence from edasalonexent or any of our other current or potential product candidates. This is due to our need to raise additional capital to fund further clinical trials of our product candidates and the numerous risks and uncertainties associated with developing medicines, including the uncertainties of:

- establishing an appropriate safety profile with IND-enabling toxicology studies;
- successful enrollment in, and completion of clinical trials;
- receipt of marketing approvals from applicable regulatory authorities;
- establishing commercial manufacturing capabilities or making arrangements with third-party manufacturers;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity for our product candidates;
- launching commercial sales of the products, if and when approved, whether alone or in collaboration with others; and
- a continued acceptable safety profile of the products following approval.

A change in the outcome of any of these variables with respect to the development of any of our product candidates would significantly change the costs and timing associated with the development of that product candidate.

Research and development activities are central to our business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect to incur significant research and development costs for the foreseeable future. We expect that our research and development expenses will increase significantly in the near term in connection with the substantial activities required to conduct our PolarisDMD trial and prepare for registration and commercialization of edasalonexent for the treatment of DMD. We do not believe that it is possible at this time to accurately project total program-specific expenses through commercialization. There are numerous factors associated with the successful commercialization of any of our product candidates, including future trial design and various regulatory requirements, many of which cannot be determined with accuracy at this time based on our stage of development. Additionally, future commercial and regulatory factors beyond our control will impact our clinical development programs and plans.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for personnel in executive, finance, accounting, business development, legal and human resources functions. Other significant costs include facility costs not otherwise included in research and development expenses, legal fees relating to patent and corporate matters, and fees for accounting and consulting services.

We anticipate that in the near term our general and administrative expenses will remain relatively consistent with their current levels. As we approach the anticipated read out of top-line results from our PolarisDMD trial in the fourth quarter of 2020, we may increase our general and administrative expenditures to hire personnel to support potential commercialization of edasalonexent, dependent on our available capital resources and our prospects for obtaining additional financing.

Other Income (Expense)

Other income (expense), net consists of gains and losses on sale and disposal of property and equipment, interest income earned on our cash, cash equivalents, and short-term investments, interest expense incurred on debt instruments, amortized deferred financing costs and amortized debt discount and net amortization expense on short-term investments.

Critical Accounting Policies and Significant Judgments and Estimates

This discussion and analysis of our financial condition and results of operations is based on our financial statements, which we have prepared in accordance with United States generally accepted accounting principles. We believe that several accounting policies are important to understanding our historical and future performance. We refer to these policies as critical because these specific areas generally require us to make judgments and estimates about matters that are uncertain at the time we make the estimate, and different estimates—which also would have been reasonable—could have been used. On an ongoing basis, we evaluate our estimates and

judgments. We base our estimates on historical experience and other market-specific or other relevant assumptions that we believe to be 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.

During the nine months ended September 30, 2019, there were no material changes to our critical accounting policies as reported in our 2018 Annual Report on Form 10-K.

Results of Operations

Comparison of the Three Months Ended September 30, 2019 and 2018

The following table summarizes our results of operations for the three months ended September 30, 2019 and 2018, together with the dollar change in those items (in thousands):

	Three Months Ended September 30,		Period-to-Period Change
	2019	2018	
Operating expenses:			
Research and development	4,697	3,897	800
General and administrative	1,985	2,111	(126)
Total operating expenses	6,682	6,008	674
Loss from operations	(6,682)	(6,008)	(674)
Other income, net	168	329	(161)
Net loss	$ (6,514)	$ (5,679)	$ (835)

Research and Development Expenses

Research and development expenses increased by $0.8 million to $4.7 million for the three months ended September 30, 2019 from $3.9 million for the three months ended September 30, 2018, an increase of 21%. The increase in research and development expenses was attributable to a $1.0 million increase in costs to support our edasalonexent program due to activities associated with conducting the PolarisDMD trial and a $0.2 million increase in professional services. These increases were partially offset by a $0.1 million decrease in employee compensation due to special incentive bonuses granted in 2018, a $0.2 million decrease in the research and development portion of facilities due to the net effect of income received from the subtenant and a $0.1 million decreases in costs to support other research and platform programs.

General and Administrative Expenses

General and administrative expenses decreased by $0.1 million to $2.0 million for the three months ended September 30, 2019 from $2.1 million for the three months ended September 30, 2018, a decrease of 6%. The decrease in general and administrative expenses was attributable to a $0.3 million decrease in employee compensation due to special incentive bonuses granted in 2018 and a $0.2 million decrease in the general and administrative portion of the facilities cost due to the net effect of income received from the subtenant. These decreases were partially offset by a $0.2 million increase in professional services, a $0.1 million increase in Delaware franchise tax and a $0.1 million increase in the general and administrative portion of insurance expense.

Other Income, Net

Other income, net decreased by $0.1 million to $0.2 million for the three months ended September 30, 2019 from $0.3 million for the three months ended September 30, 2018. This was due to our having recognized other income of $0.1 million for the three months ended September 30, 2018 due to a gain recognized on disposal of equipment.

Comparison of the Nine Months Ended September 30, 2019 and 2018

The following table summarizes our results of operations for the nine months ended September 30, 2019 and 2018, together with the dollar change in those items (in thousands):

	Nine Months Ended September 30, 2019	2018	Period-to-Period Change
Operating expenses:			
Research and development	14,054	13,383	671
General and administrative	6,287	6,900	(613)
Total operating expenses	20,341	20,283	58
Loss from operations	(20,341)	(20,283)	(58)
Other income, net	658	473	185
Net loss	$ (19,683)	$ (19,810)	$ 127

Research and Development Expenses

Research and development expenses increased by $0.7 million to $14.1 million for the nine months ended September 30, 2019 from $13.4 million for the nine months ended September 30, 2018, an increase of 5%. The increase in research and development expenses was attributable to a $3.6 million increase in costs to support our edasalonexent program due to activities associated with conducting the PolarisDMD trial and a $0.2 million increase in professional services. These increases were partially offset by a $1.5 million decrease in employee compensation due to a reduction in our workforce in April 2018, a $0.5 million decrease in costs to support our CAT-5571 program, a $0.6 million decrease in costs to support other research and platform programs, and a $0.6 million decrease in the research and development portion of facilities costs.

General and Administrative Expenses

General and administrative expenses decreased by $0.6 million to $6.3 million for the nine months ended September 30, 2019 from $6.9 million for the nine months ended September 30, 2018, a decrease of 9%. The decrease in general and administrative expenses was attributable to a $0.7 million decrease in employee compensation due to a reduction in our workforce in April 2018 and a $0.4 million decrease in the general and administrative portion of the facilities cost due to the net effect of income received from the subtenant. These decreases were partially offset by a $0.2 million increase in Delaware franchise tax, a $0.2 million increase in professional expenses and a $0.1 million increase in insurance expense related to increased premiums for directors and officers liability insurance.

Other Income, Net

Other income, net increased by $0.2 million in the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018, primarily due to an increase in interest and investment income of $0.4 million due to an increase in our interest-bearing assets and a $0.1 million decrease in interest expense due to the maturity of our credit facility in September 2018, partially offset by our having recognized other income for the nine months ended September 30, 2018 of $0.3 million due to a gain recognized on disposal of equipment.

Liquidity and Capital Resources

From our inception through September 30, 2019, we raised an aggregate of $268.8 million, through various private placements of preferred stock, our IPO, debt financing as well as various other registered equity offerings, including underwritten public offerings, ATM offerings, and stock option and warrant exercises. As of September 30, 2019, we had $40.6 million in cash, cash equivalents and short-term investments.

February 2019 Financing

On February 6, 2019, we entered into an underwriting agreement with Oppenheimer & Co. Inc. relating to an underwritten public offering of 4,000,000 shares of our common stock and accompanying warrants to purchase up to 2,000,000 shares of common stock, at a combined price to the public of $5.00 per unit, for gross proceeds of $20.0 million, and net proceeds of $18.5 million. The warrants were immediately exercisable at an exercise price of $6.25 per share and will expire five years from the date of issuance.

At-the-Market Offering

During the nine months ended September 30, 2019, we sold an aggregate of 564,590 shares of common stock pursuant to our ATM programs, at a weighted average price of $6.32 per share, for gross proceeds of $3.6 million, resulting in net proceeds of $3.2 million after deducting sales commissions and offering expenses.

Cash Flows

Comparison of the Nine Months Ended September 30, 2019 and 2018

The following table provides information regarding our cash flows for the three months ended September 30, 2019 and 2018 (in thousands):

	Nine Months Ended September 30,	
	2019	2018
Net cash used in operating activities	$ (18,799)	$ (18,196)
Net cash used in investing activities	(578)	(22,999)
Net cash provided by financing activities	21,848	44,702
Net increase in cash, cash equivalents and restricted cash	$ 2,471	$ 3,507

Net Cash Used in Operating Activities

Net cash used in operating activities was $18.8 million for the nine months ended September 30, 2019 and consisted primarily of a net loss of $19.7 million adjusted for non-cash items, including stock-based compensation and depreciation and amortization expense of $1.3 million and a net increase in operating assets of $0.4 million, which resulted primarily from an increase in prepaid expenses of $0.7 million, a decrease in accrued expenses of $0.3 million and an increase long-term other assets and the right-of-use asset of $0.1 million, partially offset by an increase in accounts payable of $0.7 million.

Net cash used in operating activities was $18.2 million for the nine months ended September 30, 2018 and consisted primarily of a net loss of $19.8 million adjusted for non-cash items, including stock-based compensation expense of $1.3 million, depreciation and amortization expense of $0.1 million, a gain on disposal of property and equipment of $0.3 million, and a net decrease in operating assets of $0.5 million, which resulted primarily from increases in accounts payable and accrued expenses.

Net Cash Used in Investing Activities

Net cash used in investing activities was $0.6 million for the nine months ended September 30, 2019 and consisted of purchases of short-term investments of $123.4 million partially offset by proceeds from maturities of short-term investments of $122.8 million. Net cash used in investing activities was $23.0 million for the nine months ended September 30, 2018 and consisted of purchases of short-term investments of $39.4 million partially offset by proceeds from maturities of short-term investments of $16.0 million and sales of property and equipment of $0.4 million.

Net Cash Provided by Financing Activities

Net cash provided by financing activities was $21.8 million during the nine months ended September 30, 2019, which was primarily attributable to net proceeds of $18.5 million from the February 2019 Financing and net proceeds of $3.3 million from our ATM programs. Net cash provided by financing activities was $44.7 million during the nine months ended September 30, 2018, which was

primarily attributable to net proceeds of $38.9 million from the June 2018 Financing and net proceeds of $8.3 million from our ATM programs, partially offset by $2.5 million in repayment of principal on the Credit Facility.

Funding Requirements

Our primary uses of capital are for compensation and related expenses, manufacturing costs for pre-clinical and clinical materials, third party clinical trial research and development services, clinical costs, legal and other regulatory expenses, and general overhead.

As of September 30, 2019 we had an accumulated deficit of $217.0 million. We have been primarily involved with research and development activities and have incurred operating losses and negative cash flows from operations since our inception.

As of September 30, 2019, we had available cash, cash equivalents and short-term investments of $40.6 million. We expect that our existing cash, cash equivalents and short-term investments are sufficient to support our operating expenses through 2020.

Our estimate as to how long we expect our cash, cash equivalents and short-term investments to be able to fund our operations is based on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Further, changing circumstances, some of which may be beyond our control, could cause us to consume capital significantly faster than we currently anticipate, and we may need to seek additional funds sooner than planned. Our future funding requirements will depend on many factors, including:

- any unanticipated costs or expenses related to our Phase 3 PolarisDMD or GalaxyDMD trials, including costs and expenses for any additional research or preclinical or clinical development efforts related to this trial;
- the progress, timing, costs and results of clinical trials of, and research and preclinical development efforts for, our product candidates and potential product candidates, including current and future clinical trials;
- our ability to enter into and the terms and timing of any additional collaborations, licensing or other arrangements that we may establish;
- the number and characteristics of future product candidates that we pursue and their development requirements;
- the outcome, timing and costs of seeking regulatory approvals;
- the costs of commercialization activities for any of our product candidates to the extent such costs are not the responsibility of any future collaborators, including the costs and timing of establishing product sales, marketing, distribution and manufacturing capabilities;
- subject to receipt of marketing approval, revenue, if any, received from commercial sales of our product candidates;
- our headcount growth and associated costs as we expand our research and development and establish a commercial infrastructure;
- the costs of preparing, filing and prosecuting patent applications, maintaining and protecting our intellectual property rights and defending against intellectual property related claims; and
- the costs of operating as a public company.

Identifying potential product candidates and conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve product sales. In addition, our product candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of medicines that we do not expect to be commercially available for several years, if at all. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. We do not have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, our stockholders' ownership interests will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our stockholders' rights. Debt financing, if available, would result in increased fixed payment obligations and may involve agreements that include restrictive covenants that limit our ability to take specific actions, such as incurring debt, making capital expenditures or declaring dividends, that could adversely impact our ability to conduct our business.

If we raise funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we

may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under applicable Securities and Exchange Commission rules.

Contractual Obligations

As of September 30, 2019, other than the executed sublease discussed in Note 6 of the accompanying notes to the financial statements, there had been no material changes to our contractual obligations and commitments disclosed under Management's Discussion and Analysis of Financial Condition and Results of Operations in the 2018 Annual Report on Form 10-K.

Item 3. Qualitative and Quantitative Disclosures about Market Risk

The market risk inherent in our financial instruments and in our financial position represents the potential loss arising from adverse changes in interest rates. As of September 30, 2019, we had cash, cash equivalents and short-term investments of $40.6 million and, as of December 31, 2018, we had cash, cash equivalents and short-term investments of $37.6 million. Our cash equivalents as of September 30, 2019 and December 31, 2018 consisted of corporate debt securities, money market funds and U.S. reverse repurchase agreements. Our short-term investments as of September 30, 2019 and December 31, 2018 consisted of corporate debt securities and U.S. reverse repurchase agreements. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates. Due to the short-term duration of our investment portfolio and the low risk profile of our investments, an immediate 10% change in interest rates would not have a material effect on the fair market value of our investment portfolio and interest income.

As of September 30, 2019 and December 31, 2018, we had no material liabilities denominated in foreign currencies.

Item 4. Controls and Procedures

Management's Evaluation of our Disclosure Controls and Procedures

We maintain disclosure controls and procedures (as defined in Rules 13a-15(e) or 15d-15(e) under the Securities Exchange Act of 1934, or the Exchange Act) that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is (1) recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms and (2) accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q. Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our principal executive officer and principal financial officer have concluded based upon the evaluation described above that, as of September 30, 2019, our disclosure controls and procedures were effective at the reasonable assurance level.

We continue to review and document our disclosure controls and procedures, including our internal controls and procedures for financial reporting, and may from time to time make changes aimed at enhancing their effectiveness and to ensure that our systems evolve with our business.

Changes in Internal Control over Financial Reporting.

During the three months ended September 30, 2019, there were no changes in our internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15(d)-15(f) promulgated under the Exchange Act, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1A. Risk Factors

We operate in a dynamic and rapidly changing business environment that involves risks and substantial uncertainty. The following discussion addresses risks and uncertainties that could cause, or contribute to causing, actual results to differ from expectations in material ways. In evaluating our business, investors should pay particular attention to the risks and uncertainties described below and in other sections of this Quarterly Report on Form 10-Q and in our subsequent filings with the Securities and Exchange Commission, or SEC. These risks and uncertainties, or other events that we do not currently anticipate or that we currently deem immaterial also may affect our results of operations, cash flows and financial condition. The trading price of our common stock could also decline due to any of these risks, and you could lose all or part of your investment.

Risks Related to Our Financial Position and Need for Additional Capital

We will need substantial additional funding. If we are unable to raise capital when needed, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.

Developing pharmaceutical products, including conducting preclinical studies and clinical trials, is a very time-consuming, expensive and uncertain process that takes years to complete. We initiated our Phase 3 PolarisDMD clinical trial of edasalonexent in the third quarter of 2018 and our open-label extension trial GalaxyDMD in March 2019 and expect that our expenses will increase substantially as we conduct these trials. In addition, we may in the future initiate new research, preclinical and clinical development efforts for and seek marketing approval for, other product candidates, and would expect our expenses to increase in connection with each of these activities. In addition, if we obtain marketing approval for any of our product candidates, we may incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution to the extent that such sales, marketing, manufacturing and distribution are not the responsibility of a future collaborator, and these activities would require substantial additional funding. Furthermore, we have incurred and will continue to incur significant additional costs associated with operating as a public company.

Accordingly, we will need to obtain additional funding in connection with our continuing operations and for costs related to filing a New Drug Application, or NDA, seeking regulatory approvals and commercialization activities for edasalonexent in Duchenne muscular dystrophy, or DMD, and for any of our other product candidates that have successful clinical trials. If we are unable to raise capital when needed or on attractive terms, we may be forced to delay, reduce or eliminate our research and development programs or any future efforts to commercialize edasalonexent, our lead product candidate. In connection with this restructuring, we suspended our other research and development programs until a collaboration or funding is obtained. Any additional funding may not be available to us on acceptable terms, on a timely basis or at all. In the event that we are unable to obtain such funding on acceptable terms and in a timely manner, we may not be able to complete the regulatory approval or commercialization of edasalonexent or the clinical development, regulatory approval or commercialization of any other product candidate.

In addition, while we may seek one or more collaborators for future development of our product candidates or programs or for our platform technology, we may not be able to enter into a collaboration for any of our product candidates or programs or for our platform technology on suitable terms or at all. In any event, our existing cash, cash equivalents and short-term investments will not be sufficient to fund all of the efforts that we plan to undertake or to fund the completion of development of any of our product candidates. Accordingly, we will be required to obtain substantial additional funding through public or private equity offerings, debt financings, collaborations and licensing arrangements or other sources. We do not have any committed external source of funds.

Adequate additional funding may not be available to us on acceptable terms, on a timely basis or at all, impacting our ability to execute on our strategic plans. Our failure to raise capital on acceptable terms as and when needed would have a material adverse effect on our business, results of operations, financial condition and ability to pursue our business strategy.

We believe that our existing cash, cash equivalents and short-term investments as of September 30, 2019, will enable us to fund our operating expenses and capital expenditure requirements based on our current operating plan through 2020. Our estimate as to how long we expect our cash, cash equivalents and short-term investments securities to be able to fund our operations is based on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Further, changing circumstances, some of which may be beyond our control, could cause us to consume capital significantly faster than we currently anticipate, and we may need to seek additional funds sooner than planned. Our future funding requirements will depend on many factors, including:

- any unanticipated costs or expenses related to our Phase 3 PolarisDMD and GalaxyDMD trials, including costs and expenses for any additional research or preclinical or clinical development efforts related to this trial;
- the progress, timing, costs and results of clinical trials of, and research and preclinical development efforts for, our product candidates and potential product candidates, including current and future clinical trials;
- our ability to enter into and the terms and timing of any additional collaborations, licensing or other arrangements that we may establish;
- the number and characteristics of future product candidates that we pursue and their development requirements;
- the outcome, timing and costs of seeking regulatory approvals;
- the costs of commercialization activities for any of our product candidates to the extent such costs are not the responsibility of any future collaborators, including the costs and timing of establishing product sales, marketing, distribution and manufacturing capabilities;
- subject to receipt of marketing approval, revenue, if any, received from commercial sales of our product candidates;
- our headcount growth and associated costs as we expand our research and development and establish a commercial infrastructure;
- the costs of preparing, filing and prosecuting patent applications, maintaining and protecting our intellectual property rights and defending against intellectual property related claims; and
- the costs of operating as a public company.

Raising additional capital may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our technologies or product candidates.

Significant additional capital will be needed in the future to continue our planned operations. To the extent that we raise additional capital through the sale of common stock, convertible securities or other equity securities, our existing stockholders' ownership interest may be substantially diluted, and the terms of these securities could include liquidation or other preferences and anti-dilution protections that could adversely affect your rights as a common stockholder. For example, our June 2018 and February 2019 registered offerings of common stock and common stock warrants were highly dilutive to existing stockholders' ownership interests. Additional debt financing, if available, would result in increased fixed payment obligations and may involve agreements that include restrictive covenants that limit our ability to take specific actions, such as incurring additional debt, making capital expenditures, creating liens, redeeming stock or declaring dividends, that could adversely impact our ability to conduct our business. In addition, securing additional financing could require a substantial amount of time and attention from our management and may divert a disproportionate amount of their attention away from day-to-day activities, which may adversely affect our management's ability to oversee the development of our product candidates.

If we raise additional funds through collaborations or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Any future indebtedness could adversely affect our ability to operate our business.

Any future indebtedness that we may incur, combined with our other financial obligations and contractual commitments could have significant adverse consequences, including:

- requiring us to dedicate a portion of our cash resources to the payment of interest and principal, reducing money available to fund working capital, capital expenditures, product development and other general corporate purposes;
- increasing our vulnerability to adverse changes in general economic, industry and market conditions;
- subjecting us to restrictive covenants that may reduce our ability to take certain corporate actions or obtain further debt or equity financing;
- limiting our flexibility in planning for, or reacting to, changes in our business and the industry in which we compete; and
- placing us at a competitive disadvantage compared to our competitors that have less debt or better debt servicing options.

Failure to make payments or comply with other covenants under any debt instruments could result in an event of default and acceleration of amounts due.

We have incurred significant losses since inception and expect to incur significant losses for at least the next several years. We may never achieve or maintain profitability.

We have incurred significant annual net operating losses in every year since our inception. We expect to continue to incur significant operating losses for at least the next several years. Our net losses were $25.9 million and $27.4 million for the years ended December 31, 2018 and 2017, respectively. For the nine months ended September 30, 2019, our net losses were $19.7 million. As of September 30, 2019, we had an accumulated deficit of $217.0 million. We have not generated any revenues from product sales, have not completed the development of any product candidate and may never have a product candidate approved for commercialization. We have financed our operations to date primarily through private placements of our preferred stock, registered offerings of our common stock, including our initial public offering, or IPO, our June 2018 and February 2019 registered offerings of common stock and common stock warrants, our at-the-market program, and a secured debt financing, and have devoted substantially all of our financial resources and efforts to research and development, including preclinical studies and our clinical development programs. Our net losses may fluctuate significantly from quarter to quarter and year to year. Net losses and negative cash flows have had, and will continue to have, an adverse effect on our stockholders' equity and working capital.

We anticipate that our expenses will increase substantially if and to the extent we:

- continue to conduct our Phase 3 PolarisDMD clinical trial and GalaxyDMD open-label extension clinical trial of edasalonexent in DMD;
- initiate and continue research and preclinical and clinical development efforts for edasalonexent and our other product candidates;
- seek to identify and develop additional product candidates;
- seek regulatory and marketing approvals for our product candidates that successfully complete clinical trials, if any;
- establish sales, marketing, distribution and other commercial infrastructure in the future to commercialize various products for which we may obtain marketing approval, if any;
- require the manufacture of larger quantities of product candidates for clinical development and potentially commercialization;
- maintain, expand and protect our intellectual property portfolio;
- hire and retain additional personnel, such as clinical, quality control and scientific personnel;
- add operational, financial and management information systems and personnel, including personnel to support our product development and help us comply with our obligations as a public company; and
- add equipment and physical infrastructure to support our research and development programs.

Our ability to become and remain profitable depends on our ability to generate revenue. We do not expect to generate significant revenue unless and until we are, or any future collaborator is, able to obtain marketing approval for, and successfully commercialize, one or more of our product candidates. This will require our, or any of our future collaborators', success in a range of challenging activities, including obtaining funding to conduct clinical trials of our product candidates, completing clinical trials of our product candidates, obtaining marketing approval for these product candidates, manufacturing, marketing and selling those products for which we, or any of our future collaborators, may obtain marketing approval, satisfying any post-marketing requirements and obtaining reimbursement for our products from private insurance or government payors. Because of the uncertainties and risks associated with these activities, we are unable to accurately predict the timing and amount of increased expenses, and if or when we might achieve profitability. We and any future collaborators may never succeed in these activities and, even if we do, or any future collaborator does, we may never generate revenues that are large enough for us to achieve profitability. Even 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, expand our business, maintain our research and development efforts, diversify our pipeline of product candidates or continue our operations. A decline in the value of our company could cause our investors to lose all or part of their investments.

We have a limited operating history and no history of commercializing pharmaceutical products, which may make it difficult to evaluate the prospects for our future viability.

We began operations in 2008. Our operations to date have been limited to financing and staffing our company and developing our technology and conducting preclinical research and clinical trials for our product candidates. We have not yet demonstrated an ability to successfully conduct pivotal clinical trials, obtain marketing approvals, manufacture a commercial scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Accordingly, our investors should consider our prospects in light of the costs, uncertainties, delays and difficulties frequently encountered by companies in the early stages of development, especially clinical-stage biopharmaceutical companies such as ours.

Predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing pharmaceutical products.

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

Our approach to the discovery and development of product candidates has been based on our SMART Linker drug discovery platform, which is unproven, and we do not know whether we will be able to develop any products of commercial value.

We have been focused on discovering and developing novel small molecule drugs by applying our SMART Linker drug discovery platform. We have not yet succeeded and may never succeed in demonstrating efficacy and safety for any of our product candidates in a Phase 3 clinical trial or in obtaining marketing approval thereafter. For example, although we have discovered and evaluated numerous compounds using our SMART Linker drug discovery platform, no product created using the SMART Linker drug discovery platform has ever been approved for sale.

We are dependent on the success of our product candidate edasalonexent. If we are unable to complete the clinical development of, obtain marketing approval for or successfully commercialize this product candidate, either alone or with a collaborator, or if we experience significant delays in doing so, our business would be substantially harmed.

We currently have no products approved for sale and are focusing substantially all of our efforts and financial resources in the development of edasalonexent for the treatment of DMD. Our prospects are substantially dependent on our ability, or that of any future collaborator, to develop, obtain marketing approval for and successfully commercialize edasalonexent. Because our business is almost entirely dependent upon this one product candidate, any setback in obtaining regulatory approval for edasalonexent would have a material adverse effect on our business and prospects.

The success of edasalonexent will depend on several factors, including the following:

- successful completion of our Phase 3 PolarisDMD clinical trial of edasalonexent, as well as any additional clinical trials of edasalonexent, including our ongoing GalaxyDMD open-label extension clinical trial;
- safety, tolerability and efficacy profiles that are satisfactory to the U.S. Food and Drug Administration, or FDA, or any comparable foreign regulatory authority for marketing approval;
- timely receipt of marketing approvals from applicable regulatory authorities;
- the performance of our future collaborators, if any;
- the extent of any required post-marketing approval commitments to applicable regulatory authorities;
- establishment of supply arrangements with third-party raw materials suppliers and manufacturers;
- establishment of arrangements with third-party manufacturers to obtain finished drug products that are appropriately packaged for sale;
- obtaining and maintaining patent, trade secret protection and regulatory exclusivity, both in the United States and internationally;
- protection of our rights in our intellectual property portfolio;
- successful launch of commercial sales following any marketing approval;
- a continued acceptable safety profile following any marketing approval;
- commercial acceptance by patients, the medical community and third-party payors following any marketing approval; and
- our ability to compete with other therapies, including therapies targeting dystrophin, myostatin and inflammatory mediators.

Many of these factors are beyond our control, including the outcome of clinical development, the regulatory submission process, potential threats to our intellectual property rights and the manufacturing, marketing and sales efforts of any future collaborator. If we are unable to develop, receive marketing approval for and successfully commercialize edasalonexent, on our own or with any future collaborator, or experience delays as a result of any of these or other factors, our business would be substantially harmed.

Our SMART Linker drug discovery platform may fail to help us discover and develop additional potential product candidates.

A significant portion of the research that we have conducted to date and may in the future conduct, involves the development of new compounds using our SMART Linker drug discovery platform. Although, we have suspended efforts to discover additional compounds while we focus our resources on the clinical development of edasalonexent, any drug discovery that we are conducting

using our SMART Linker drug discovery platform may not be successful in creating compounds that have commercial value or therapeutic utility. Our SMART Linker drug discovery platform may initially show promise in identifying potential product candidates, yet fail to yield viable product candidates for clinical development or commercialization for a number of reasons, including:

- compounds created through our SMART Linker drug discovery platform may not demonstrate improved efficacy, safety or tolerability;
- potential product candidates may, on further study, be shown to have harmful side effects or other characteristics that indicate that they are unlikely to receive marketing approval and achieve market acceptance;
- competitors may develop alternative therapies that render our potential product candidates non-competitive or less attractive; or
- a potential product candidate may not be capable of being produced at an acceptable cost.

Our research programs to identify new product candidates will require substantial technical, financial and human resources, and we may be unsuccessful in our efforts to identify new product candidates. If we are unable to identify suitable additional compounds for preclinical and clinical development, either because our SMART Linker platform is not successful or because we do not develop alternative methods to identify compounds for development, our ability to develop product candidates and obtain product revenues in future periods could be compromised, which could result in significant harm to our financial position and adversely impact our stock price.

We have never obtained marketing approval for a product candidate and we may be unable to obtain, or may be delayed in obtaining, marketing approval for any of our product candidates.

We have never obtained marketing approval for a product candidate. It is possible that the FDA may refuse to accept for substantive review any NDAs that we submit for our product candidates or may conclude after review of our data that our applications are insufficient to obtain marketing approval of our product candidates. If the FDA does not accept or approve any NDAs we submit, it may require that we conduct additional clinical, nonclinical or manufacturing validation studies and submit that data before it will reconsider our applications. Depending on the extent of these or any other FDA-required studies, approval of any NDA or application that we submit may be delayed by several years or may require us to expend more resources than we have available. It is also possible that additional studies, if performed and completed, may not be considered sufficient by the FDA to approve our NDAs.

Any delay in obtaining, or an inability to obtain, marketing approvals would prevent us from commercializing our product candidates, generating revenues and achieving and sustaining profitability. If any of these outcomes occur, we may be forced to abandon our development efforts for our product candidates, which could significantly harm our business.

Results of preclinical studies and early clinical trials may not be predictive of results of future clinical trials.

The outcome of preclinical studies and early clinical trials may not be predictive of the success of later clinical trials, and interim results of clinical trials do not necessarily predict success in future clinical trials. Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in earlier development, and we cannot be certain that we will not face similar setbacks. 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. We have limited experience in designing clinical trials and may be unable to design and execute a clinical trial to support marketing approval. In addition, preclinical and clinical data are often susceptible to varying interpretations and analyses. Many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval for the product candidates. Even if we, or any future collaborators, believe that the results of clinical trials for our product candidates warrant marketing approval, the FDA or comparable foreign regulatory authorities may disagree and may not grant marketing approval of our product candidates.

In some instances, there can be significant variability in safety or efficacy results between different clinical trials of the same product candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the dosing regimen and other clinical trial protocols and the rate of dropout among clinical trial participants. For example, while we observed positive NF-kB biomarker data in the Phase 1 portion of our MoveDMD Phase 1/2 clinical trial of edasalonexent for the treatment of DMD that demonstrated NF-kB target engagement via statistically significant reduction in NF-kB controlled gene expression for the 67 mg/kg/day and 100 mg/kg/day dosing levels, the primary efficacy endpoint in the Phase 2 portion of the trial, which was average change from baseline to week 12 in the magnetic resonance imaging, or MRI, T2 composite measure of lower leg muscles for the pooled edasalonexent treatment groups compared to placebo, for the same dosing levels was not met. If we fail to receive positive results in clinical trials of our product candidates, the

development timeline and regulatory approval and commercialization prospects for our most advanced product candidates, and, correspondingly, our business and financial prospects would be negatively impacted.

The regulatory approval processes for product candidates that target rare diseases, including DMD and cystic fibrosis, are uncertain.

Due to the lack of precedent, broad discretion of regulatory authorities, and a multitude of unique factors that impact the regulatory approval process, the likelihood of the approval of any of our product candidates that target rare diseases, such as DMD or cystic fibrosis, is uncertain, and we may not be able to anticipate, prepare for or satisfy requests or requirements from regulatory authorities, including completing and submitting planned investigational new drug applications and NDAs for our product candidates, in a timely manner, or at all. For example, DMD is a rare disease for which there are only two FDA approved therapeutics. Further, the FDA may determine, after evaluation of our data and analyses, that such data and analyses do not support an NDA submission, filing or approval. Due to this lack of predictability, we may not have the resources necessary to meet regulatory requirements and successfully complete a potentially protracted, expensive and wide-ranging approval process for commercialization of product candidates for rare diseases.

We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and managerial resources, we intend to focus on developing product candidates for specific indications that we identify as most likely to succeed, in terms of both their potential for marketing approval and commercialization. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that may prove to have greater commercial potential.

Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable product candidates. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to the product candidate.

Clinical drug development involves a lengthy and expensive process with an uncertain outcome.

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, or at all. Further, the clinical development of our product candidates is susceptible to the risk of failure at any stage of drug development, including failure to demonstrate efficacy in a clinical trial or across a broad population of patients, the occurrence of adverse events that are severe or medically or commercially unacceptable, failure to comply with protocols or applicable regulatory requirements and determination by the FDA or any comparable foreign regulatory authority that a product candidate may not continue development or is not approvable. It is possible that even if one or more of our product candidates has a beneficial effect, that effect will not be detected during clinical evaluation as a result of one or more of a variety of factors, including the size, duration, design, measurements, conduct or analysis of our clinical trials. Conversely, as a result of the same factors, our clinical trials may indicate an apparent positive effect of a product candidate that is greater than the actual positive effect, if any. Similarly, in our clinical trials we may fail to detect toxicity of or intolerability caused by our product candidates, or mistakenly believe that our product candidates are toxic or not well tolerated when that is not in fact the case.

In addition to the risk of failure inherent in drug development, certain of the compounds that we are developing and may develop in the future using our SMART Linker drug discovery platform may be particularly susceptible to failure to the extent they are based on compounds that others have previously studied or tested, but did not progress in development due to safety, tolerability or efficacy concerns or otherwise. Our failure to successfully complete clinical trials of our product candidates and to demonstrate the efficacy and safety necessary to obtain regulatory approval to market any of our product candidates would significantly harm our business.

If clinical trials of our product candidates fail to satisfactorily demonstrate safety and efficacy to the FDA and other comparable foreign regulators, we, or any future collaborators, may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of these product candidates.

We, and any future collaborators, are not permitted to commercialize, market, promote or sell any product candidate in the United States without obtaining marketing approval from the FDA. Comparable foreign regulatory authorities, such as the European Medicines Agency, or the EMA, impose similar restrictions. We, and any future collaborators, may never receive such approvals. We,

and any future collaborators, must complete extensive preclinical development and clinical trials to demonstrate the safety and efficacy of our product candidates in humans before we, or they, will be able to obtain these approvals.

Clinical testing is expensive, difficult to design and implement, can take many years to complete and is inherently uncertain as to outcome. We have not previously submitted an NDA to the FDA or similar drug approval filings to comparable foreign regulatory authorities for any of our product candidates. Any inability to complete preclinical and clinical development successfully could result in additional costs to us, or any future collaborators, and impair our ability to generate revenues from product sales, regulatory and commercialization milestones and royalties. Moreover, if (1) we, or any future collaborators, are required to modify our trial designs, such as required modifications with respect to patient populations, endpoints, comparators or trial duration, (2) we, or any future collaborators, are required to conduct additional clinical trials or other testing of our product candidates beyond the trials and testing that we, or they contemplate, (3) we, or any future collaborators, are unable to successfully complete clinical trials of our product candidates or other testing, (4) the results of these trials or tests are unfavorable, uncertain or are only modestly favorable, or (5) there are unacceptable safety concerns associated with our product candidates, we, or any future collaborators, may:

- be delayed in obtaining marketing approval for our product candidates;
- not obtain marketing approval 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 significant safety warnings, including boxed warnings;
- be subject to additional post-marketing testing or other requirements; or
- be required to remove the product from the market after obtaining marketing approval.

Adverse events or undesirable side effects caused by, or other unexpected properties of, any of our product candidates may be identified during development that could delay or prevent their marketing approval or limit their use.

Adverse events or undesirable side effects caused by, or other unexpected properties of, our product candidates could cause us, any future collaborators, an institutional review board or regulatory authorities to interrupt, delay or halt clinical trials of one or more of our product candidates and could result in a more restrictive label or the delay or denial of marketing approval by the FDA or comparable foreign regulatory authorities. If any of our product candidates is associated with adverse events or undesirable side effects or has properties that are unexpected, we, or any future collaborators, may need to abandon development or limit development of that product candidate to certain uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective. Many compounds that initially showed promise in clinical or earlier stage testing have later been found to cause undesirable or unexpected side effects that prevented further development of the compound.

If we, or any future collaborators, experience any of a number of possible unforeseen events in connection with clinical trials of our product candidates, potential marketing approval or commercialization of our product candidates could be delayed or prevented.

We, or any future collaborators, may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent marketing approval or commercialization of our product candidates, including:

- clinical trials of our product candidates may produce unfavorable or inconclusive results, such as occurred in our MoveDMD Phase 1/2 clinical trial of edasalonexent for the treatment of DMD, where the primary efficacy endpoint was not met;
- we, or any future collaborators, may decide, or regulators may require us or them, to conduct additional clinical trials or abandon product development programs;
- the number of patients required for clinical trials of our product candidates may be larger than we, or any future collaborators, anticipate, patient enrollment in these clinical trials may be slower than we, or any future collaborators, anticipate or participants may drop out of these clinical trials at a higher rate than we, or any future collaborators, anticipate;
- the cost of planned clinical trials of our product candidates may be greater than we anticipate;
- our third-party contractors or those of any future collaborators, including those manufacturing our product candidates or components or ingredients thereof or conducting clinical trials on our behalf or on behalf of any future collaborators, may fail to comply with regulatory requirements or meet their contractual obligations to us or any future collaborators in a timely manner or at all;
- regulators or institutional review boards may not authorize us, any future collaborators or our or their investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;

- we, or any future collaborators, may have delays in reaching or fail to reach agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites;
- patients that enroll in a clinical trial may misrepresent their eligibility to do so or may otherwise not comply with the clinical trial protocol, resulting in the need to drop the patients from the clinical trial, increase the needed enrollment size for the clinical trial or extend the clinical trial's duration;
- we, or any future collaborators, may have to delay, suspend or terminate clinical trials of our product candidates for various reasons, including a finding that the participants are being exposed to unacceptable health risks, undesirable side effects or other unexpected characteristics of the product candidate;
- regulators or institutional review boards may require that we, or any future collaborators, or our or their investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements or their standards of conduct, a finding that the participants are being exposed to unacceptable health risks, undesirable side effects or other unexpected characteristics of the product candidate or findings of undesirable effects caused by a chemically or mechanistically similar drug or drug candidate;
- the FDA or comparable foreign regulatory authorities may disagree with our, or any future collaborators', clinical trial designs or our or their interpretation of data from preclinical studies and clinical trials;
- the FDA or comparable foreign regulatory authorities may fail to approve or subsequently find fault with the manufacturing processes or facilities of third-party manufacturers with which we, or any future collaborators, enter into agreements for clinical and commercial supplies;
- the supply or quality of raw materials or manufactured product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient, inadequate or not available at an acceptable cost, or we may experience interruptions in supply; and
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient to obtain marketing approval.

Product development costs for us, or any future collaborators, will increase if we, or they, experience delays in testing or pursuing marketing approvals and we, or they, may be required to obtain additional funds to complete clinical trials and prepare for possible commercialization of our product candidates. We do not know whether any preclinical tests or clinical trials will begin as planned, will need to be restructured, or will be completed on schedule or at all. Significant preclinical or clinical trial delays also could shorten any periods during which we, or any future collaborators, may have the exclusive right to commercialize our product candidates or allow our competitors, or the competitors of any future collaborators, to bring products to market before we, or any future collaborators, do and impair our ability, or the ability of any future collaborators, to successfully commercialize our product candidates and may harm our business and results of operations. In addition, many of the factors that lead to clinical trial delays may ultimately lead to the denial of marketing approval of any of our product candidates.

If we, or any future collaborators, experience delays or difficulties in the enrollment of patients in clinical trials, our or their receipt of necessary regulatory approvals could be delayed or prevented.

We, or any future collaborators, may not be able to initiate or continue clinical trials for any of our product candidates if we, or they, are unable to locate and enroll a sufficient number of eligible patients to participate in clinical trials as required by the FDA or comparable foreign regulatory authorities, such as the EMA. Patient enrollment is a significant factor in the timing of clinical trials, and is affected by many factors, including:

- the size and nature of the patient population;
- the severity of the disease under investigation;
- the proximity of patients to clinical sites;
- the eligibility criteria for the trial;
- the design of the clinical trial;
- efforts to facilitate timely enrollment;
- competing clinical trials; and
- clinicians' and patients' perceptions as to the potential advantages and risks of the drug being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating.

The successful completion of any future clinical trial for edasalonexent or any other product candidate for the treatment of DMD will be dependent upon our ability to enroll a sufficient number of patients with DMD. DMD is a rare disease with a small patient population. Further, there are only a limited number of specialist physicians that regularly treat patients with DMD and major clinical centers that support DMD treatment are concentrated in a few geographic regions. Further, these specialized sites typically treat a range of pediatric neuromuscular diseases and, at any point in time, may have constrained resources and capacity to handle clinical trials. In addition, other companies are conducting clinical trials and have announced plans for future clinical trials that are seeking, or

are likely to seek, to enroll patients with DMD and patients are generally only able to enroll in a single trial at a time. The small population of patients, competition for these patients and the limited trial sites and their constrained resources may make it difficult for us to enroll enough patients to complete clinical trials for edasalonexent in a timely and cost-effective manner or at all.

The clinical trials that we conduct may also have inclusion criteria that further limit the population of patients that we are able to enroll. For example, further clinical trials for edasalonexent may require that the enrolled boys be between certain ages and not on certain other medications. These inclusion criteria, or other inclusion criteria that are not yet defined, could further limit the available patient pool and present challenges to clinical trial enrollment.

Our inability, or the inability of any future collaborators, to enroll a sufficient number of patients for our, or their, clinical trials could result in significant delays or may require us or them to abandon one or more clinical trials altogether. Enrollment delays in our, or their, clinical trials may result in increased development costs for our product candidates, delay or halt the development of and approval processes for our product candidates and jeopardize our, or any future collaborators', ability to commence sales of and generate revenues from our product candidates, which could cause the value of our company to decline.

If any of our product candidates receives marketing approval and we, or others, later discover that the drug is less effective than previously believed or causes undesirable side effects that were not previously identified, our ability, or that of any future collaborators, to market the drug could be compromised.

Clinical trials of our product candidates are conducted in carefully defined subsets of patients who have agreed to enter into clinical trials. Consequently, it is possible that our clinical trials, or those of any future collaborator, may indicate an apparent positive effect of a product candidate that is greater than the actual positive effect, if any, or alternatively fail to identify undesirable side effects. If, following approval of a product candidate, we, or others, discover that the drug is less effective than previously believed or causes undesirable side effects that were not previously identified, any of the following adverse events could occur:

- regulatory authorities may withdraw their approval of the drug or seize the drug;
- we, or any future collaborators, may be required to recall the drug, change the way the drug is administered or conduct additional clinical trials;
- additional restrictions may be imposed on the marketing of, or the manufacturing processes for, the particular drug;
- we may be subject to fines, injunctions or the imposition of civil or criminal penalties;
- regulatory authorities may require the addition of labeling statements, such as a "black box" warning or a contraindication;
- we, or any future collaborators, may be required to create a Medication Guide outlining the risks of the previously unidentified side effects for distribution to patients;
- we, or any future collaborators, could be sued and held liable for harm caused to patients;
- the drug may become less competitive; and
- our reputation may suffer.

Any of these events could have a material and adverse effect on our operations and business and could adversely impact our stock price.

Even if one of our product candidates receives marketing approval, it may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success and the market opportunity for the product candidate may be smaller than we estimate.

We have never commercialized a product. Even if one of our product candidates is approved by the appropriate regulatory authorities for marketing and sale, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. For example, physicians are often reluctant to switch their patients from existing therapies even when new and potentially more effective or convenient treatments enter the market. Further, patients often acclimate to the therapy that they are currently taking and do not want to switch unless their physicians recommend switching products or they are required to switch therapies due to lack of reimbursement for existing therapies.

Efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources and may not be successful. If any of our product candidates is approved but does not achieve an adequate level of market acceptance, we may not generate significant revenues and we may not become profitable. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- the efficacy and safety of the product;

- the potential advantages of the product compared to alternative treatments;
- the prevalence and severity of any side effects;
- the clinical indications for which the product is approved;
- whether the product is designated under physician treatment guidelines as a first-line therapy or as a second- or third-line therapy;
- limitations or warnings, including distribution or use restrictions, contained in the product's approved labeling;
- our ability, or the ability of any future collaborators, to offer the product for sale at competitive prices;
- the product's convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try, and of physicians to prescribe, the product;
- the strength of sales, marketing and distribution support;
- the approval of other new products for the same indications;
- changes in the standard of care for the targeted indications for the product;
- the timing of market introduction of our approved products as well as competitive products;
- availability and amount of reimbursement from government payors, managed care plans and other third-party payors;
- adverse publicity about the product or favorable publicity about competitive products; and
- potential product liability claims.

The potential market opportunities for our product candidates are difficult to estimate precisely. Our estimates of the potential market opportunities are predicated on many assumptions, including industry knowledge and publications, third-party research reports and other surveys. While we believe that our internal assumptions are reasonable, these assumptions involve the exercise of significant judgment on the part of our management, are inherently uncertain and the reasonableness of these assumptions has not been assessed by an independent source. If any of the assumptions proves to be inaccurate, the actual markets for our product candidates could be smaller than our estimates of the potential market opportunities.

If we are unable to establish sales, marketing and distribution capabilities or enter into sales, marketing and distribution arrangements with third parties, we may not be successful in commercializing any product candidates that we develop if and when those product candidates are approved.

We recently hired a Chief Commercial Officer and have taken initial steps towards planning for commercialization of our lead product candidate. However, we currently do not have a sales, marketing or distribution infrastructure and have limited experience in the sale, marketing or distribution of pharmaceutical products. To achieve commercial success for any approved product, we must either develop a sales and marketing organization or outsource these functions to third parties. We plan to use a combination of focused in-house sales and marketing capabilities and third-party collaboration, licensing and distribution arrangements to sell any of our products that receive marketing approval.

We generally plan to seek to retain full commercialization rights for products that we can commercialize with a specialized sales force and to retain co-promotion or similar rights when feasible in indications requiring a larger commercial infrastructure. The development of sales, marketing and distribution capabilities will require substantial resources, will be time-consuming and could delay any product launch. If the commercial launch of a product for which we recruit a sales force and establish marketing and distribution capabilities is delayed or does not occur for any reason, we could have prematurely or unnecessarily incurred these commercialization costs. This may be costly, and our investment could be lost if we cannot retain or reposition our sales and marketing personnel. In addition, we may not be able to hire or retain a sales force that is sufficient in size or has adequate expertise in the medical markets that we plan to target. If we are unable to establish or retain a sales force and marketing and distribution capabilities, our operating results may be adversely affected. If a potential partner has development or commercialization expertise that we believe is particularly relevant to one of our products, then we may seek to collaborate with that potential partner even if we believe we could otherwise develop and commercialize the product independently.

We may collaborate with third parties for commercialization of any products that require a large sales, marketing and product distribution infrastructure. We intend to potentially commercialize our product candidates through collaboration, licensing and distribution arrangements with third parties. As a result of entering into arrangements with third parties to perform sales, marketing and distribution services, our product revenues or the profitability of these product revenues may be lower, perhaps substantially lower, than if we were to directly market and sell products in those markets. Furthermore, we may be unsuccessful in entering into the necessary arrangements with third parties or may be unable to do so on terms that are favorable to us. In addition, we may have little or no control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our products effectively.

If we do not establish sales, marketing and distribution capabilities, either on our own or in collaboration with third parties, we will not be successful in commercializing any of our product candidates that receive marketing approval.

We face substantial competition from other pharmaceutical and biotechnology companies, and our operating results may suffer if we fail to compete effectively.

The development and commercialization of new drug products is highly competitive. We expect that we, and any future collaborators, will face significant competition from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide with respect to any of our product candidates that we, or they, may seek to develop or commercialize in the future. Specifically, there are a number of large pharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of product candidates for the treatment of the key indication of our most advanced program, DMD.

There are currently two therapies approved for the treatment of DMD in the United States, Sarepta Therapeutics' drug EXONDYS 51®, also known as eteplirsen, and PTC Therapeutics' EMFLAZA®, also known as deflazacort, a corticosteroid. Additionally, corticosteroid therapy, including prednisone, is often prescribed off-label to treat the inflammation underlying DMD and to delay loss of ambulation. PTC Therapeutics' Translarna™ has conditional marketing authorization in the European Union for the treatment of DMD caused by a nonsense mutation. A number of companies are developing additional therapies to treat DMD and are in the process of registration or in late stage clinical development, including Hoffman-La Roche Ltd., Italfarmaco S.p.A., ReveraGen, Mallinckrodt, PTC Therapeutics, Santhera Pharmaceuticals and Sarepta Therapeutics.

Our competitors may succeed in developing, acquiring or licensing technologies and drug products that are more effective, have fewer or more tolerable side effects or are less costly than any product candidates that we are currently developing or that we may develop, which could render our product candidates obsolete and noncompetitive.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we, or any future collaborators, may develop. Our competitors also may obtain FDA or other marketing approval for their products before we, or any future collaborators, are able to obtain approval for ours, which could result in our competitors establishing a strong market position before we, or any future collaborators, are able to enter the market.

Many of our existing and potential future competitors have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining marketing approvals and marketing approved products than we do. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

If the FDA or comparable foreign regulatory authorities approve generic versions of any of our products that receive marketing approval, or such authorities do not grant our products appropriate periods of data exclusivity before approving generic versions of our products, the sales of our products could be adversely affected.

Once an NDA is approved, the product covered thereby becomes a "reference-listed drug" in the FDA's publication, "Approved Drug Products with Therapeutic Equivalence Evaluations." Manufacturers may seek approval of generic versions of reference-listed drugs through submission of abbreviated new drug applications, or ANDAs, in the United States. In support of an ANDA, a generic manufacturer need not conduct clinical studies. Rather, the applicant generally must show that its product has the same active ingredient(s), dosage form, strength, route of administration and conditions of use or labeling as the reference-listed drug and that the generic version is bioequivalent to the reference-listed drug, meaning it is absorbed in the body at the same rate and to the same extent. Generic products may be significantly less costly to bring to market than the reference-listed drug and companies that produce generic products are generally able to offer them at lower prices. Thus, following the introduction of a generic drug, a significant percentage of the sales of any branded product or reference-listed drug may be typically lost to the generic product.

The FDA may not approve an ANDA for a generic product until any applicable period of non-patent exclusivity for the reference-listed drug has expired. The Federal Food, Drug, and Cosmetic Act, or FDCA, provides a period of five years of non-patent exclusivity for a new drug containing a new chemical entity, or NCE. Specifically, in cases where such exclusivity has been granted, an ANDA may not be filed with the FDA until the expiration of five years unless the submission is accompanied by a Paragraph IV certification that a patent covering the reference-listed drug is either invalid or will not be infringed by the generic product, in which case the applicant may submit its application four years following approval of the reference-listed drug. It is unclear whether the FDA will treat the active ingredients in our product candidates as NCEs and, therefore, afford them five years of NCE data exclusivity if

they are approved. If any product we develop does not receive five years of NCE exclusivity, the FDA may approve generic versions of such product three years after its date of approval. Manufacturers may seek to launch these generic products following the expiration of the applicable marketing exclusivity period, even if we still have patent protection for our product.

Competition that our products may face from generic versions of our products could materially and adversely impact our future revenue, profitability and cash flows and substantially limit our ability to obtain a return on the investments we have made in those product candidates.

Even if we, or any future collaborators, are able to commercialize any product candidate that we, or they, develop, the product may become subject to unfavorable pricing regulations, third-party payor reimbursement practices or healthcare reform initiatives that could harm our business.

The commercial success of our product candidates will depend substantially, both domestically and abroad, on the extent to which the costs of our product candidates will be paid by third-party payors, including government health administration authorities and private health coverage insurers. If coverage and reimbursement is not available, or reimbursement is available only to limited levels, we, or any future collaborators, may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us, or any future collaborators, to establish or maintain pricing sufficient to realize a sufficient return on our or their investments. In the United States, no uniform policy of coverage and reimbursement for products exists among third-party payors and coverage and reimbursement for products can differ significantly from payor to payor.

There is significant uncertainty related to third-party payor coverage and reimbursement of newly approved drugs. Marketing approvals, pricing and reimbursement for new drug products vary widely from country to country. Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we, or any future collaborators, might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay commercial launch of the product, possibly for lengthy time periods, which may negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability or the ability of any future collaborators to recoup our or their investment in one or more product candidates, even if our product candidates obtain marketing approval.

Patients who are provided medical treatment for their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Therefore, our ability, and the ability of any future collaborators, to commercialize any of our product candidates will depend in part on the extent to which coverage and reimbursement for these products and related treatments will be available from third-party payors. Third-party payors decide which medications they will cover and establish reimbursement levels. The healthcare industry is acutely focused on cost containment, both in the United States and elsewhere. Government authorities and other third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications, which could affect our ability or that of any future collaborators to sell our product candidates profitably. These payors may not view our products, if any, as cost-effective, and coverage and reimbursement may not be available to our customers, or those of any future collaborators, or may not be sufficient to allow our products, if any, to be marketed on a competitive basis. Cost-control initiatives could cause us, or any future collaborators, to decrease the price we, or they, might establish for products, which could result in lower than anticipated product revenues. If the prices for our products, if any, decrease or if governmental and other third-party payors do not provide coverage or adequate reimbursement, our prospects for revenue and profitability will suffer.

There may also be delays in obtaining coverage and reimbursement for newly approved drugs, and coverage may be more limited than the indications for which the drug is approved by the FDA or comparable foreign regulatory authorities. Moreover, eligibility for reimbursement does not imply that any drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Reimbursement rates may vary, by way of example, according to the use of the drug and the clinical setting in which it is used. Reimbursement rates may also be based on reimbursement levels already set for lower cost drugs or may be incorporated into existing payments for other services.

In addition, increasingly, third-party payors are requiring higher levels of evidence of the benefits and clinical outcomes of new technologies and are challenging the prices charged. We cannot be sure that coverage will be available for any product candidate that we, or any future collaborator, commercialize and, if available, that the reimbursement rates will be adequate. Further, the net reimbursement for drug products may be subject to additional reductions if there are changes to laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. An inability to promptly obtain coverage and adequate payment rates from both government-funded and private payors for any of our product candidates for which we, or any

future collaborator, obtain marketing approval could significantly harm our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

Product liability lawsuits against us could divert our resources, cause us to incur substantial liabilities and limit commercialization of any products that we may develop.

We face an inherent risk of product liability claims as a result of the clinical testing of our product candidates despite obtaining appropriate informed consents from our clinical trial participants. We will face an even greater risk if we or any future collaborators commercially sell any product that we may or they may develop. For example, we may be sued if any product we develop allegedly causes injury or is found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability or a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our product candidates. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for our product candidates or products that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend resulting litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue;
- reduced resources of our management to pursue our business strategy; and
- the inability to commercialize any products that we may develop.

Although we maintain general liability insurance of $5.0 million in the aggregate and clinical trial liability insurance of $10.0 million in the aggregate, this insurance may not fully cover potential liabilities that we may incur. The cost of any product liability litigation or other proceeding, even if resolved in our favor, could be substantial. We will need to increase our insurance coverage if and when we begin selling any product candidate that receives marketing approval. In addition, insurance coverage is becoming increasingly expensive. If we are unable to obtain or maintain sufficient insurance coverage at an acceptable cost or to otherwise protect against potential product liability claims, it could prevent or inhibit the development and commercial production and sale of our product candidates, which could adversely affect our business, financial condition, results of operations and prospects.

Risks Related to Our Dependence on Third Parties

We expect to seek to establish collaborations and, if we are not able to establish them on commercially reasonable terms, we may have to alter our development and commercialization plans.

Our drug development programs and the potential commercialization of our product candidates will require substantial additional cash to fund expenses. We expect to seek one or more collaborators for the development and commercialization of one or more of our product candidates. For example, conducting clinical trials of CAT-5571 in patients with cystic fibrosis will likely involve significant cost, and we expect that we would conduct any clinical trial of CAT-5571 in patients with cystic fibrosis in collaboration with one or more partners. Likely collaborators may include large and mid-size pharmaceutical companies, regional and national pharmaceutical companies and biotechnology companies.

We face significant competition in seeking appropriate collaborators. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. Those factors may include the potential differentiation of our product candidate from competing product candidates, design or results of clinical trials, the likelihood of approval by the FDA or comparable foreign regulatory authorities and the regulatory pathway for any such approval, the potential market for the product candidate, the costs and complexities of manufacturing and delivering the product to patients and the potential of competing products. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available for collaboration and whether such a collaboration could be more attractive than the one with us for our product candidate.

Collaborations are complex and time-consuming to negotiate and document. Further, there have been a significant number of business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators. In addition, any loan and security agreements or collaboration agreements that we enter into in the future may contain, restrictions on our ability to enter into potential collaborations or to otherwise develop specified compounds.

We may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of the product candidate for which we are seeking to collaborate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop our product candidates or bring them to market and generate product revenue.

If we enter into collaborations with third parties for the development and commercialization of our product candidates, our prospects with respect to those product candidates will depend in significant part on the success of those collaborations.

We expect to enter into collaborations for the development and commercialization of certain of our product candidates. If we enter into such collaborations, we will have limited control over the amount and timing of resources that our collaborators will dedicate to the development or commercialization of our product candidates. Our ability to generate revenues from these arrangements will depend on any future collaborators' abilities to successfully perform the functions assigned to them in these arrangements. In addition, any future collaborators may have the right to abandon research or development projects and terminate applicable agreements, including funding obligations, prior to or upon the expiration of the agreed upon terms.

Collaborations involving our product candidates pose a number of risks, including the following:

- collaborators have significant discretion in determining the efforts and resources that they will apply to these collaborations;
- collaborators may not perform their obligations as expected;
- collaborators may not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization programs, based on clinical trial results, changes in the collaborators' strategic focus or available funding or external factors, such as an acquisition, that divert resources or create competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- a collaborator with marketing and distribution rights to one or more products may not commit sufficient resources to the marketing and distribution of such product or products;
- disagreements with collaborators, including disagreements over proprietary rights, contract interpretation or the preferred course of development, might cause delays or termination of the research, development or commercialization of product candidates, might lead to additional responsibilities for us with respect to product candidates, or might result in litigation or arbitration, any of which would be time-consuming and expensive;
- collaborators may not properly maintain or defend 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;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability; and
- collaborations may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates.

Collaboration agreements may not lead to development or commercialization of product candidates in the most efficient manner or at all. If any future collaborator of ours is involved in a business combination, it could decide to delay, diminish or terminate the development or commercialization of any product candidate licensed to it by us.

We rely on third parties to conduct our clinical trials. If they do not perform satisfactorily, our business could be significantly harmed.

We do not independently conduct clinical trials of any of our product candidates. We rely on third parties, such as contract research organizations, clinical data management organizations, medical institutions and clinical investigators, to conduct these clinical trials and expect to rely on these third parties to conduct clinical trials of any other product candidate that we develop. Any of these third parties may terminate their engagements with us under certain circumstances. We may not be able to enter into alternative arrangements or do so on commercially reasonable terms. In addition, there is a natural transition period when a new contract research

organization begins work. As a result, delays would likely occur, which could materially impact our ability to meet our expected clinical development timelines and harm our business, financial condition and prospects.

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

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

We also rely on other third parties to store and distribute drug supplies for our clinical trials. Any performance failure on the part of our distributors could delay clinical development or marketing approval of our product candidates or commercialization of any resulting products, producing additional losses and depriving us of potential product revenue.

We contract with third parties for the manufacture and distribution of our product candidates for clinical trials and expect to continue to do so in connection with our future development and commercialization efforts. This reliance on third parties increases the risk that we will not have sufficient quantities of our product candidates or such quantities at an acceptable cost, which could delay, prevent or impair our development or commercialization efforts.

We currently have no manufacturing facilities and limited personnel with manufacturing experience. We rely on contract manufacturers to produce both drug substance and drug product required for our clinical trials. We plan to continue to rely upon contract manufacturers, and, potentially collaboration partners, to manufacture commercial quantities of our products, if approved. Reliance on such third-party contractors entails risks, including:

- manufacturing delays if our third-party contractors give greater priority to the supply of other products over our product candidates or otherwise do not satisfactorily perform according to the terms of the agreements between us and them;
- the possible termination or nonrenewal of agreements by our third-party contractors at a time that is costly or inconvenient for us;
- the possible breach by the third-party contractors of our agreements with them;
- the failure of third-party contractors to comply with applicable regulatory requirements;
- the possible mislabeling of clinical supplies, potentially resulting in the wrong dose amounts being supplied or active drug or placebo not being properly identified;
- the possibility of clinical supplies not being delivered to clinical sites on time, leading to clinical trial interruptions, or of drug supplies not being distributed to commercial vendors in a timely manner, resulting in lost sales; and
- the possible misappropriation of our proprietary information, including our trade secrets and know-how.

We currently rely, and expect to continue to rely, on a small number of third-party contract manufacturers to supply the majority of our active pharmaceutical ingredient and required finished product for our preclinical studies and clinical trials. We do not have

long-term agreements with any of these third parties. If any of our existing manufacturers should become unavailable to us for any reason, we may incur some delay in identifying or qualifying replacements.

Any manufacturing problem or the loss of a contract manufacturer could be disruptive to our operations, delay our clinical trials and, if our products are approved for sale, result in lost sales. Additionally, we rely on third parties to supply the raw materials needed to manufacture our product candidates. Any reliance on suppliers may involve several risks, including a potential inability to obtain critical materials and reduced control over production costs, delivery schedules, reliability and quality. Any unanticipated disruption to future contract manufacture caused by problems at suppliers could delay shipment of our product candidates, increase our cost of goods sold and result in lost sales.

If any of our product candidates are approved by any regulatory agency, we plan to enter into agreements with third-party contract manufacturers for the commercial production and distribution of those products. It may be difficult for us to reach agreement with a contract manufacturer on satisfactory terms or in a timely manner. In addition, we may face competition for access to manufacturing facilities as there are a limited number of contract manufacturers operating under current good manufacturing practices, or cGMPs, that are capable of manufacturing our product candidates. Consequently, we may not be able to reach agreement with third-party manufacturers on satisfactory terms, which could delay our commercialization efforts.

Third-party manufacturers are required to comply with cGMPs and similar regulatory requirements outside the United States. Facilities used by our third-party manufacturers must be approved by the FDA after we submit an NDA and before potential approval of the product candidate. Similar regulations apply to manufacturers of our product candidates for use or sale in foreign countries. We do not control the manufacturing process and are completely dependent on our third-party manufacturers for compliance with the applicable regulatory requirements for the manufacture of our product candidates. If our manufacturers cannot successfully manufacture material that conforms to our specifications or the strict regulatory requirements of the FDA and any applicable foreign regulatory authority, they will not be able to secure the applicable approval for their manufacturing facilities. If these facilities are not approved for commercial manufacture, we may need to find alternative manufacturing facilities, which could result in delays in obtaining approval for the applicable product candidate.

In addition, our manufacturers are subject to ongoing periodic inspections by the FDA and corresponding state and foreign agencies for compliance with cGMPs and similar regulatory requirements both prior to and following the receipt of marketing approval for any of our product candidates. Some of these inspections may be unannounced. Failure by any of our manufacturers to comply with applicable cGMPs or other regulatory requirements could result in sanctions being imposed on us, including fines, injunctions, civil penalties, delays, suspensions or withdrawals of approvals, operating restrictions, interruptions in supply and criminal prosecutions, any of which could adversely affect supplies of our product candidates and significantly harm our business, financial condition and results of operations.

Our current and anticipated future dependence upon others for the manufacture of our product candidates may adversely affect our future profit margins and our ability to commercialize any products that receive marketing approval on a timely and competitive basis.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain sufficient patent protection for our product candidates, or if the scope of the patent protection is not sufficiently broad, our competitors could develop and commercialize products similar or identical to ours, and our ability to commercialize our product candidates successfully may be adversely affected.

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 product candidates. If we do not adequately protect our intellectual property, competitors may be able to erode or negate any competitive advantage we may have, which could harm our business and ability to achieve profitability. To protect our proprietary position, we file patent applications in the United States and abroad related to our novel product candidates that are important to our business. The patent application and approval process is expensive and time-consuming. We may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain. No consistent policy regarding the breadth of claims allowed in biotechnology and pharmaceutical patents has emerged to date in the United States or in many foreign jurisdictions. In addition, the determination of patent rights with respect to pharmaceutical compounds commonly involves complex legal and factual questions, which 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 patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications. Assuming the other requirements for patentability are met, currently, patents are granted to the party who was the first to file a patent application. However, prior to March 16, 2013, in the United States, patents were granted to the party who was the first to invent the claimed subject matter. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we were the first to make the inventions claimed in our patents or pending patent applications, or that we were the first to file for patent protection of such inventions.

Moreover, because the issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, our patents or pending patent applications may be challenged in the courts or patent offices in the United States and abroad. For example, we may be subject to a third party preissuance submission of prior art to the U.S. Patent and Trademark Office, or USPTO, or become involved in post-grant review procedures, oppositions, derivations, reexaminations, inter partes review or interference proceedings, in the United States or elsewhere, challenging our patent rights or the patent rights of others. An adverse determination in any such challenges may result in loss of exclusivity or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products. In addition, 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.

Our pending and future patent applications may not result in patents being issued which protect our product candidates, in whole or in part, or which effectively prevent others from commercializing competitive products. 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. In addition, the laws of foreign countries may not protect our rights to the same extent or in the same manner as the laws of the United States. For example, European patent law restricts the patentability of methods of treatment of the human body more than United States law does.

Even if our patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors from competing with us or otherwise provide us with any competitive advantage. Our competitors may be able to circumvent our patents by developing similar or alternative technologies or products in a non-infringing manner. Our competitors may also seek approval to market their own products similar to or otherwise competitive with our products. Alternatively, our competitors may seek to market generic versions of any approved products by submitting ANDAs to the FDA in which they claim that patents owned or licensed by us are invalid, unenforceable or not infringed. In these circumstances, we may need to defend or assert our patents, or both, including by filing lawsuits alleging patent infringement. In any of these types of proceedings, a court or other agency with jurisdiction may find our patents invalid or unenforceable, or that our competitors are competing in a non-infringing manner. Thus, even if we have valid and enforceable patents, these patents still may not provide protection against competing products or processes sufficient to achieve our business objectives.

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

While we have obtained composition of matter patents with respect to our most advanced product candidates, we also rely on trade secret protection for certain aspects of technology platform, including certain aspects of our SMART Linker drug discovery platform. We seek to protect these trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, consultants, independent contractors, advisors, contract manufacturers, suppliers and other third parties. We also enter into confidentiality and invention or patent assignment agreements with employees and certain consultants. Any party with whom we have executed such an agreement may breach that agreement and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, if any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent such third party, or those to whom they communicate such technology or information, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor, our business and competitive position could be harmed.

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

Competitors may infringe our patents, trademarks, copyrights or other intellectual property. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time consuming and divert the time and

attention of our management and scientific personnel. Any claims we assert against perceived infringers could provoke these parties to assert counterclaims against us alleging that we infringe their patents, in addition to counterclaims asserting that our patents are invalid or unenforceable, or both. In any patent infringement proceeding, there is a risk that a court will decide that a patent of ours is invalid or unenforceable, in whole or in part, and that we do not have the right to stop the other party from using the invention at issue. There is also a risk that, even if the validity of such patents is upheld, the court will construe the patent's claims narrowly or decide that we do not have the right to stop the other party from using the invention at issue on the grounds that our patent claims do not cover the invention. An adverse outcome in a litigation or proceeding involving our patents could limit our ability to assert our patents against those parties or other competitors and may curtail or preclude our ability to exclude third parties from making and selling similar or competitive products. Any of these occurrences could adversely affect our competitive business position, business prospects and financial condition. Similarly, if we assert trademark infringement claims, a court may determine that the marks we have asserted are invalid or unenforceable, or that the party against whom we have asserted trademark infringement has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such trademarks.

Even if we establish infringement, the court may decide not to grant an injunction against further infringing activity and instead award only monetary damages, which may or may not be an adequate remedy. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of shares of our common stock. Moreover, there can be no assurance that we will have sufficient financial or other resources to file and pursue such infringement claims, which typically last for years before they are concluded. Even if we ultimately prevail in such claims, the monetary cost of such litigation and the diversion of the attention of our management and scientific personnel could outweigh any benefit we receive as a result of the proceedings.

If we are sued for infringing intellectual property rights of third parties, such litigation could be costly and time consuming and could prevent or delay us from developing or commercializing our product candidates.

Our commercial success depends, in part, on our ability to develop, manufacture, market and sell our product candidates and use our SMART Linker drug discovery platform without infringing the intellectual property and other proprietary rights of third parties. Third parties have U.S. and non-U.S. issued patents and pending patent applications relating to compounds and methods of use for the treatment of DMD, the key indication for our most advanced program. If any third-party patents or patent applications are found to cover our product candidates or their methods of use, we may not be free to manufacture or market our product candidates as planned without obtaining a license, which may not be available on commercially reasonable terms, or at all.

There is a substantial amount of intellectual property litigation in the biotechnology and pharmaceutical industries, and we may become party to, or threatened with, litigation or other adversarial proceedings regarding intellectual property rights with respect to our product candidates, including interference proceedings before the USPTO. Third parties may assert infringement claims against us based on existing or future intellectual property rights. The outcome of intellectual property litigation is subject to uncertainties that cannot be adequately quantified in advance. The pharmaceutical and biotechnology industries have produced a significant number of patents, and it may not always be clear to industry participants, including us, which patents cover various types of products or methods of use. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform. If we were sued for patent infringement, we would need to demonstrate that our product candidates, products or methods either do not infringe the patent claims of the relevant patent or that the patent claims are invalid or unenforceable, and we may not be able to do this. Proving invalidity is difficult. For example, in the United States, proving invalidity requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. Even if we are successful in these proceedings, we may incur substantial costs and the time and attention of our management and scientific personnel could be diverted in pursuing these proceedings, which could significantly harm our business and operating results. In addition, we may not have sufficient resources to bring these actions to a successful conclusion.

If we are found to infringe a third party's intellectual property rights, we could be forced, including by court order, to cease developing, manufacturing or commercializing the infringing product candidate or product. Alternatively, we may be required to obtain a license from such third party in order to use the infringing technology and continue developing, manufacturing or marketing the infringing product candidate. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing 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 have a similar negative impact on our business.

Changes to the patent law in the United States and other jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our products.

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involves both technological and legal complexity and is therefore costly, time consuming and inherently uncertain. Patent reform legislation in the United States and other countries, including the Leahy-Smith America Invents Act, or the Leahy-Smith Act, signed into law in September 2011, could increase those uncertainties and costs. The Leahy-Smith Act included a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications are prosecuted, redefine prior art and provide more efficient and cost-effective avenues for competitors to challenge the validity of patents, for example, via post grant review and inter parties review proceedings at the USPTO. In addition, the Leahy-Smith Act transformed the U.S. patent system into a "first to file" system. The first-to-file provisions, however, only became effective in March 2013. However, the Leahy-Smith Act and its implementation could make it more difficult to obtain patent protection for our inventions and increase the uncertainties and costs surrounding the prosecution of our or our collaboration partners' patent applications and the enforcement or defense of our or our collaboration partners' issued patents, all of which could harm our business, results of operations and financial condition.

The U.S. Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. Additionally, there have been recent proposals for additional changes to the patent laws of the United States and other countries that, if adopted, could impact our ability to enforce our proprietary technology. Depending on future actions by the U.S. Congress, the U.S. courts, the USPTO and the relevant law-making bodies in other countries, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future.

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

Periodic maintenance fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Noncompliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. If we fail to maintain the patents and patent applications covering our product candidates, our competitive position would be adversely affected.

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

Filing, prosecuting and defending patents on our product candidates in all countries throughout the world would be prohibitively expensive. The requirements for patentability may differ in certain countries, particularly in developing countries. 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 may obtain patent protection, but where patent enforcement is not as strong as that in the United States. These products may compete with our products in jurisdictions where we do not have any issued or licensed patents or where any future patent claims or other intellectual property rights may not be effective or sufficient to prevent them from competing with us.

Moreover, our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in foreign intellectual property laws. Additionally, laws of some countries outside of the United States and Europe do not afford intellectual property protection to the same extent as the laws of the United States and Europe. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of some countries, including India, China and other developing countries, do not favor the enforcement of patents and other intellectual property rights. This could make it difficult for us to stop the infringement of our patents or the misappropriation of our other intellectual property rights. For example, many foreign countries have compulsory licensing laws under which a patent owner must grant licenses to third parties. Consequently, we may not be able to prevent third parties from practicing our inventions in certain countries outside the United States and Europe. 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, if our ability to enforce our patents to stop infringing activities in those jurisdictions is inadequate. 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.

Proceedings to enforce our patent rights in foreign jurisdictions, whether or not successful, could result in substantial costs and divert our efforts and resources from other aspects of our business. Furthermore, while we intend to protect our intellectual property rights in major markets for our products, we cannot ensure that we will be able to initiate or maintain similar efforts in all jurisdictions in which we may wish to market our products. Accordingly, our efforts to protect our intellectual property rights in such countries may be inadequate.

Patent term may be inadequate to protect our competitive position on our products for an adequate amount of time.

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. We expect to seek extensions of patent terms in the United States and, if available, in other countries where we are prosecuting patents. In the United States, the Drug Price Competition and Patent Term Restoration Act of 1984 permits a patent term extension of up to five years beyond the normal expiration of the patent, which is limited to the approved indication (or any additional indications approved during the period of extension). However, the applicable authorities, including the FDA and the USPTO in the United States, and any equivalent regulatory authority in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. If this occurs, our competitors may be able to take advantage of our investment in development and clinical trials by referencing our clinical and preclinical data and launch their product earlier than might otherwise be the case.

We may be subject to claims by third parties asserting that our employees or we have misappropriated their intellectual property, or claiming ownership of what we regard as our own intellectual property.

Many of our employees, including our senior management, were previously employed at universities or at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Some of these employees, including members of our senior management, executed proprietary rights, non-disclosure and non-competition agreements, or similar agreements, in connection with such previous employment. Although we try to ensure that our employees do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these employees have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such third party. Litigation may be necessary to defend against such claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel or sustain damages. Such intellectual property rights could be awarded to a third party, and we could be required to obtain a license from such third party to commercialize our technology or products. Such a license may not be available on commercially reasonable terms or at all. 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 we typically require our employees, consultants and contractors who may be involved in the 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 develops intellectual property that we regard as our own, which may result in claims by or against us related to the ownership of such intellectual property. If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to our senior management and scientific personnel.

Risks Related to Regulatory Approval and Other Legal Compliance Matters

Even if we complete the necessary preclinical and clinical studies, the marketing approval process is expensive, time consuming and uncertain and may prevent us or any future collaborators from obtaining approvals for the commercialization of some or all of our product candidates. As a result, we cannot predict when or if, and in which territories, we, or any future collaborators, will obtain marketing approval to commercialize a product candidate.

The research, testing, manufacturing, labeling, approval, selling, marketing, promotion and distribution of drug products are subject to extensive regulation by the FDA and comparable foreign regulatory authorities, which regulations differ from country to country. We, and any future collaborators, are not permitted to market our product candidates in the United States or in other countries until we, or they, receive approval of an NDA from the FDA or marketing approval from applicable regulatory authorities outside the United States. Our product candidates are in various stages of development and are subject to the risks of failure inherent in drug development. We have not submitted an application for or received marketing approval for any of our product candidates in the

United States or in any other jurisdiction. We have limited experience in conducting and managing the clinical trials necessary to obtain marketing approvals, including FDA approval of an NDA.

The process of obtaining marketing approvals, both in the United States and abroad, is lengthy, expensive and uncertain. It may take many years, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved.

In addition, changes in marketing approval policies during the development period, changes in or the enactment or promulgation of additional statutes, regulations or guidance or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. Regulatory authorities have substantial discretion in the approval process and may refuse to accept any application or may decide that our data are insufficient for approval and require additional preclinical, clinical or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit or prevent marketing approval of a product candidate. Any marketing approval we, or any future collaborators, ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable.

Any delay in obtaining or failure to obtain required approvals could materially adversely affect our ability or that of any future collaborators to generate revenue from the particular product candidate, which likely would result in significant harm to our financial position and adversely impact our stock price.

Failure to obtain marketing approval in foreign jurisdictions would prevent our product candidates from being marketed abroad.

In order to market and sell our products in the European Union and many other jurisdictions, we, and any future collaborators, must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The marketing approval process outside the United States generally includes all of the risks associated with obtaining FDA approval. In addition, in many countries outside the United States, it is required that the product be approved for reimbursement before the product can be approved for sale in that country. We, and any future collaborators, may not obtain approvals from regulatory authorities outside the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA.

The 2016 vote of the electorate in the United Kingdom in favor of leaving the European Union, commonly known as Brexit, has created substantial uncertainly and is expected to continue to do so for the foreseeable future regardless of whether Brexit is implemented or not. Since a significant proportion of the regulatory framework in the United Kingdom is derived from European Union directives and regulations, Brexit could materially impact the regulatory regime with respect to the approval of edasalonexent or any future product candidate in the United Kingdom or the European Union. Any delay in obtaining, or an inability to obtain, any marketing approvals, as a result of Brexit or otherwise, would prevent us from commercializing our product candidates in the United Kingdom and/or the European Union and restrict our ability to generate revenue and achieve and sustain profitability. If any of these outcomes occur, we may be forced to restrict or delay efforts to seek regulatory approval in the United Kingdom and/or European Union for our product candidates, which could significantly and materially harm our business.

We, or any future collaborators, may not be able to obtain orphan drug designation or orphan drug exclusivity for our product candidates.

Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is a drug intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the United States. While we have obtained orphan drug designation from the FDA and orphan medicinal product designation from the European Commission for edasalonexent for the treatment of DMD, we, or any future collaborators, may seek orphan drug designations for other product candidates or in other jurisdictions and may be unable to obtain such designations.

Even if we, or any future collaborators, obtain orphan drug designation for a product candidate, we, or they, may not be able to obtain orphan drug exclusivity for that product candidate. Generally, a product with orphan drug designation only becomes entitled to orphan drug exclusivity if it receives the first marketing approval for the indication for which it has such designation, in which case the FDA or the EMA will be precluded from approving another marketing application for the same drug for that indication for the applicable exclusivity period. The applicable exclusivity period is seven years in the United States and ten years in Europe. The European exclusivity period can be reduced to six years if a drug no longer meets the criteria for orphan drug designation or if the

drug is sufficiently profitable so that market exclusivity is no longer justified. Orphan drug exclusivity may be lost if the FDA or the EMA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition.

Even if we, or any future collaborators, obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because FDA has taken the position that, under certain circumstances, another drug with the same active moiety can be approved for the same condition. Specifically, the FDA's regulations provide that it can approve another drug with the same active moiety for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care.

In August 2017, the Congress passed the FDA Reauthorization Act of 2017, or FDARA. FDARA, among other things, codified the FDA's pre-existing regulatory interpretation, to require that a drug sponsor demonstrate the clinical superiority of an orphan drug that is otherwise the same as a previously approved drug for the same rare disease in order to receive orphan drug exclusivity. The new legislation reverses prior precedent holding that the Orphan Drug Act unambiguously requires that the FDA recognize the orphan exclusivity period regardless of a showing of clinical superiority. The FDA may further reevaluate the Orphan Drug Act and its regulations and policies. We do not know if, when, or how the FDA may change the orphan drug regulations and policies in the future, and it is uncertain how any changes might affect our business. Depending on what changes the FDA may make to its orphan drug regulations and policies, our business could be adversely impacted.

Even if we, or any future collaborators, obtain marketing approvals for our product candidates, the terms of approvals and ongoing regulation of our products may limit how we, or they, manufacture and market our products, which could materially impair our ability to generate revenue.

Once marketing approval has been granted, an approved product and its manufacturer and marketer are subject to ongoing review and extensive regulation. We, and any future collaborators, must therefore comply with requirements concerning advertising and promotion for any of our product candidates for which we or they obtain marketing approval. Promotional communications with respect to prescription drugs are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the product's approved labeling. Thus, we and any future collaborators will not be able to promote any products we develop for indications or uses for which they are not approved.

In addition, manufacturers of approved products and those manufacturers' facilities are required to comply with extensive FDA requirements, including ensuring that quality control and manufacturing procedures conform to cGMPs, which include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation and reporting requirements. We, our contract manufacturers, any future collaborators and their contract manufacturers could be subject to periodic unannounced inspections by the FDA to monitor and ensure compliance with cGMPs.

Accordingly, assuming we, or any future collaborators, receive marketing approval for one or more of our product candidates, we, and any future collaborators, and our and their contract manufacturers will continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production, product surveillance and quality control.

If we, and any future collaborators, are not able to comply with post-approval regulatory requirements, we, and any future collaborators, could have the marketing approvals for our products withdrawn by regulatory authorities and our, or any future collaborators', ability to market any future products could be limited, which could adversely affect our ability to achieve or sustain profitability. Further, the cost of compliance with post-approval regulations may have a negative effect on our operating results and financial condition.

Any of our product candidates for which we, or any future collaborators, obtain marketing approval in the future could be subject to post-marketing restrictions or withdrawal from the market and we, or any future collaborators, may be subject to substantial penalties if we, or they, fail to comply with regulatory requirements or if we, or they, experience unanticipated problems with our products following approval.

Any of our product candidates for which we, or any future collaborators, obtain marketing approval in the future, as well as the manufacturing processes, post-approval studies and measures, labeling, advertising and promotional activities for such product, among other things, will be subject to continual requirements of and review by the FDA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, registration and listing requirements, requirements relating to manufacturing, quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians and recordkeeping. Even if marketing approval of a product candidate is granted,

the approval may be subject to limitations on the indicated uses for which the product may be marketed or to the conditions of approval, including the requirement to implement a Risk Evaluation and Mitigation Strategy.

The FDA may also impose requirements for costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of a product. The FDA and other agencies, including the Department of Justice, closely regulate and monitor the post-approval marketing and promotion of products to ensure that they are manufactured, marketed and distributed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA imposes stringent restrictions on manufacturers' communications regarding off-label use and if we, or any future collaborators, do not market any of our product candidates for which we, or they, receive marketing approval for only their approved indications, we, or they, may be subject to warnings or enforcement action for off-label marketing. Violation of the FDCA and other statutes, including the False Claims Act, relating to the promotion and advertising of prescription drugs may lead to investigations or allegations of violations of federal and state health care fraud and abuse laws and state consumer protection laws.

In addition, later discovery of previously unknown adverse events or other problems with our products or their manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may yield various results, including:

- restrictions on such products, manufacturers or manufacturing processes;
- restrictions on the labeling or marketing of a product;
- restrictions on product distribution or use;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters or untitled letters;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;
- restrictions on coverage by third-party payors;
- fines, restitution or disgorgement of profits or revenues;
- suspension or withdrawal of marketing approvals;
- refusal to permit the import or export of products;
- product seizure; or
- injunctions or the imposition of civil or criminal penalties.

Under the Cures Act and the Trump Administration's regulatory reform initiatives, the FDA's policies, regulations and guidance may be revised or revoked and that could prevent, limit or delay regulatory approval of our product candidates, which would impact our ability to generate revenue.

In December 2016, the 21st Century Cures Act, or Cures Act, was signed into law. The Cures Act, among other things, is intended to modernize the regulation of drugs and spur innovation, but its ultimate implementation is unclear. 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 adversely affect our business, prospects, financial condition and results of operations.

We also cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. For example, certain policies of the Trump Administration may impact our business and industry. Namely, the Trump Administration has taken several executive actions, including the issuance of a number of executive orders, that could impose significant burdens on, or otherwise materially delay, the FDA's ability to engage in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. An under-resourced FDA could result in delays in the FDA's responsiveness or in its ability to review submissions or applications, issue regulations or guidance, or implement or enforce regulatory requirements in a timely fashion or at all. In January 2017, President Trump issued an executive order, applicable to all executive agencies including the FDA, which requires that for each notice of proposed rulemaking or final regulation to be issued in fiscal year 2017, the agency shall identify at least two existing regulations to be repealed, unless prohibited by law. These requirements are referred to as the "two-for-one" provisions. This executive order includes a budget neutrality provision that requires the total incremental cost of all new regulations in the 2017 fiscal year, including repealed regulations, to be no greater than zero, except in limited circumstances. For fiscal years 2018 and beyond, the executive order requires agencies to identify regulations to offset any incremental cost of a new regulation and approximate the total costs or savings associated with each new regulation or repealed regulation. In interim guidance issued by the Office of Information and Regulatory Affairs within OMB in February 2017, the administration indicates that the "two-for-one" provisions may apply not only to agency regulations, but also to significant agency guidance documents. In addition, on February 24,

2017, President Trump issued an executive order directing each affected agency to designate an agency official as a "Regulatory Reform Officer" and establish a "Regulatory Reform Task Force" to implement the two-for-one provisions and other previously issued executive orders relating to the review of federal regulations. It is difficult to predict how these various requirements will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. If these executive actions impose constraints on the FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

Recently enacted and future legislation may increase the difficulty and cost for us and any future collaborators to obtain marketing approval of and commercialize our product candidates and affect the prices we, or they, may obtain.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could, among other things, prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability, or the ability of any future collaborators, to profitably sell any products for which we, or they, obtain marketing approval. We expect that current laws, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we, or any future collaborators, may receive for any approved products.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or Medicare Modernization Act, changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sales prices for physician administered drugs. In addition, this legislation provided authority for limiting the number of drugs that will be covered in any therapeutic class. Cost reduction initiatives and other provisions of this legislation could decrease the coverage and price that we receive for any approved products. While the Medicare Modernization Act applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the Medicare Modernization Act may result in a similar reduction in payments from private payors.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, or collectively the Affordable Care Act, or ACA, became law in 2010 and includes the following provisions of potential importance to our product candidates:

- an annual, non-deductible fee on any entity that manufactures or imports specified branded prescription drugs and biologic agents;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program;
- expansion of federal healthcare fraud and abuse laws, including the False Claims Act and the Anti-Kickback Statute, new government investigative powers and enhanced penalties for noncompliance;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts off negotiated prices;
- extension of manufacturers' Medicaid rebate liability;
- expansion of eligibility criteria for Medicaid programs;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program new requirements to report financial arrangements with physicians and teaching hospitals;
- a new requirement to annually report drug samples that manufacturers and distributors provide to physicians; and
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. These changes included aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, which went into effect in April 2013 and will remain in effect through 2024 unless additional Congressional action is taken. The American Taxpayer Relief Act of 2012, among other things, reduced Medicare payments to several providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any of our product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate is prescribed or used.

We expect that these healthcare reforms, as well as other healthcare reform measures that may be adopted in the future, may result in additional reductions in Medicare and other healthcare funding, more rigorous coverage criteria, new payment methodologies and additional downward pressure on the price that we receive for any approved product and/or the level of reimbursement physicians receive for administering any approved product we might bring to market. Reductions in reimbursement levels may negatively impact the prices we receive or the frequency with which our products are prescribed or administered. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors.

Since enactment of the ACA, there have been numerous legal challenges and Congressional actions to repeal and replace provisions of the law. For example, with the December 2017 enactment of the Tax Cuts and Jobs Act of 2017, Congress repealed the "individual mandate." The repeal of this provision, which requires most Americans to carry a minimal level of health insurance, became effective in 2019. According to the Congressional Budget Office, the repeal of the individual mandate will cause 13 million fewer Americans to be insured in 2027 and premiums in insurance markets may rise. Additionally, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain ACA-mandated fees, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. Further, the Bipartisan Budget Act of 2018, among other things, amends the ACA, effective January 1, 2019, to increase from 50 percent to 70 percent the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole." Further, each chamber of the Congress has put forth multiple bills designed to repeal or repeal and replace portions of the ACA. Although none of these measures has been enacted by Congress to date, Congress may consider other legislation to repeal and replace elements of the ACA. Congress will likely consider other legislation to replace elements of the ACA during the next congressional session.

The Trump Administration has also taken executive actions to undermine or delay implementation of the ACA. Since January 2017, President Trump has signed two Executive Orders designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. One Executive Order directs federal agencies with authorities and responsibilities under the ACA to waive, defer, grant exemptions from, or delay the implementation of any provision of the ACA that would impose a fiscal or regulatory burden on states, individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. The second Executive Order terminates the cost-sharing subsidies that reimburse insurers under the ACA. Several state Attorneys General filed suit to stop the administration from terminating the subsidies, but their request for a restraining order was denied by a federal judge in California on October 25, 2017. Further, on June 14, 2018, U.S. Court of Appeals for the Federal Circuit ruled that the federal government was not required to pay more than $12 billion in ACA risk corridor payments to third-party payors who argued were owed to them. The effects of this gap in reimbursement on third-party payors, the viability of the ACA marketplace, providers, and potentially our business, are not yet known. In addition, Centers for Medicare & Medicaid Services has recently proposed regulations that would give states greater flexibility in setting benchmarks for insurers in the individual and small group marketplaces, which may have the effect of relaxing the essential health benefits required under the ACA for plans sold through such marketplaces.

Further, on December 14, 2018, a U.S. District Court judge in the Northern District of Texas ruled that the individual mandate portion of the ACA is an essential and inseverable feature of the ACA, and therefore because the mandate was repealed as part of the Tax Cuts and Jobs Act, the remaining provisions of the ACA are invalid as well. The Trump administration and CMS have both stated that the ruling will have no immediate effect, and on December 30, 2018 the same judge issued an order staying the judgment pending appeal. The Trump Administration has represented to the US Court of Appeals for the Fifth Circuit considering this judgment that it does not oppose the lower court's ruling. To that end, on May 1, 2019, the Justice Department filed a brief asking the Court to strike down the entirety of the ACA. Thereafter, on July 10, 2019, the Court of Appeals for the Fifth Circuit heard oral argument in this case. In those arguments, the Trump administration argued in support of upholding the lower court decision. Litigation and legislation over the ACA are likely to continue, with unpredictable and uncertain results.

We will continue to evaluate the effect that the ACA and its possible repeal and replacement could have on our business. It is possible that such initiatives, if enacted into law, could ultimately result in fewer individuals having health insurance coverage or in individuals having insurance coverage with less generous benefits. While the timing and scope of any potential future legislation to amend the ACA is uncertain in many respects, it is also possible that some of the ACA provisions that generally are not favorable for the research-based pharmaceutical industry could also be repealed along with ACA coverage expansion provisions. Accordingly, such reforms, if enacted, could have an adverse effect on anticipated revenue from product candidates that we may successfully develop and for which we may obtain marketing approval and may affect our overall financial condition and ability to develop commercialize product candidates.

Further, there have been several recent U.S. congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, reduce the costs of drugs under Medicare and reform government program reimbursement methodologies for drug products. At the federal level, the Trump administration has pressed for drug price control measures that could be enacted during the 2019 budget process or in other future legislation, including, for example, measures to permit Medicare Part D plans to negotiate the price of certain drugs under Medicare Part B, to allow some states to negotiate drug prices under Medicaid, and to eliminate cost sharing for generic drugs for low-income patients. While any proposed measures will require authorization through additional legislation to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs.

In addition, on May 11, 2018, the Administration issued a plan to lower drug prices. Under this blueprint for action, the Administration indicated that the Department of Health and Human Services, or HHS, will: take steps to end the gaming of regulatory and patent processes by drug makers to unfairly protect monopolies; advance biosimilars and generics to boost price competition; evaluate the inclusion of prices in drug makers' ads to enhance price competition; speed access to and lower the cost of new drugs by clarifying policies for sharing information between insurers and drug makers; avoid excessive pricing by relying more on value-based pricing by expanding outcome-based payments in Medicare and Medicaid; work to give Part D plan sponsors more negotiation power with drug makers; examine which Medicare Part B drugs could be negotiated for a lower price by Part D plans, and improving the design of the Part B Competitive Acquisition Program; update Medicare's drug-pricing dashboard to increase transparency; prohibit Part D contracts that include "gag rules" that prevent pharmacists from informing patients when they could pay less out-of-pocket by not using insurance; and require that Part D plan members be provided with an annual statement of plan payments, out-of-pocket spending, and drug price increases.

At the state level, individual states are increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. In addition, regional health care authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other health care programs. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing.

Moreover, legislative and regulatory proposals have also been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical drugs. We cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our drug candidates, if any, may be. In addition, increased scrutiny by the Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us and any collaborators to more stringent drug labeling and post-marketing testing and other requirements.

Our relationships with customers and third-party payors, among others, will be subject to applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which could expose us to penalties, including criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.

Healthcare providers and third-party payors will play a primary role in the recommendation and prescription of any products for which we obtain marketing approval. Our arrangements with third-party payors and customers, if any, will subject us to broadly applicable fraud and abuse and other healthcare laws and regulations. The laws and regulations may constrain the business or financial arrangements and relationships through which we market, sell and distribute any products for which we obtain marketing approval. These include the following:

Anti-Kickback Statute. The federal healthcare Anti-Kickback Statute prohibits, among other things, persons and entities from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, order or recommendation or arranging of, any good or service, for which payment may be made under a federal healthcare program such as Medicare and Medicaid;

False Claims Laws. The federal false claims laws impose criminal and civil penalties against individuals or entities for, among other things, knowingly presenting, or causing to be presented false or fraudulent claims for payment by a federal healthcare program or making a false statement or record material to payment of a false claim or avoiding, decreasing or concealing an obligation to pay money to the federal government, with potential liability including mandatory treble damages and significant per-claim penalties;

HIPAA. The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, imposes criminal and civil liability for, among other things, executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters, and, as amended by the Health Information Technology for Economic and Clinical Health Act and its implementing regulations, also imposes obligations, including mandatory contractual terms and technical safeguards, with respect to maintaining the privacy, security and transmission of individually identifiable health information;

Transparency Requirements. Federal laws require applicable manufacturers of covered drugs, biologics, devices and supplies to report payments and other transfers of value to physicians and teaching hospitals and ownership and investment interests by physicians; and

Analogous State and Foreign Laws. Analogous state and foreign fraud and abuse laws and regulations, such as state anti-kickback and false claims laws, which may be broader in scope, can apply to our business activities, including sales or marketing arrangements, and claims involving healthcare items or services and are generally broad and are enforced by many different federal and state agencies as well as through private actions. Some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government and require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures. State laws also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not pre-empted by HIPAA, thus complicating compliance efforts.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, imprisonment, exclusion of products from government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations. If any of the physicians or other healthcare providers or entities with whom we expect to do business is found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is also prohibited in the European Union. The provision of benefits or advantages to physicians is 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 publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization and/or the regulatory authorities of the individual 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.

Compliance with global privacy and data security requirements could result in additional costs and liabilities to us or inhibit our ability to collect and process data globally, and the failure to comply with such requirements could subject us to significant fines and penalties, which may have a material adverse effect on our business, financial condition or results of operations.

The regulatory framework for the collection, use, safeguarding, sharing, transfer and other processing of information worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. Globally, virtually every jurisdiction in which we operate has established its own data security and privacy frameworks with which we must comply. For example, the collection, use, disclosure, transfer, or other processing of personal data regarding individuals in the European Union, including personal health data, is subject to the European Union General Data Protection Regulation, or the GDPR, which took effect across all member states of the European Economic Area, or EEA, in May 2018. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data, including requirements relating to processing health and other sensitive data, obtaining consent of the individuals to whom the personal data relates, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, providing notification of data breaches, and taking certain measures when engaging third-party processors. The GDPR increases our obligations with respect to clinical trials conducted in the EEA by expanding the definition of personal data to include coded data and requiring changes to informed consent practices and more detailed notices for clinical trial subjects and investigators. In addition, the GDPR also imposes strict rules on the transfer of personal data to countries outside the European Union, including the United States and, as a result, increases the scrutiny

that clinical trial sites located in the EEA should apply to transfers of personal data from such sites to countries that are considered to lack an adequate level of data protection, such as the United States. The GDPR also permits data protection authorities to require destruction of improperly gathered or used personal information and/or impose substantial fines for violations of the GDPR, which can be up to four percent of global revenues or 20 million Euros, whichever is greater, and it also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. In addition, the GDPR provides that European Union member states may make their own further laws and regulations limiting the processing of personal data, including genetic, biometric or health data.

Given the breadth and depth of changes in data protection obligations, preparing for and complying with the GDPR's requirements is rigorous and time intensive and requires significant resources and a review of our technologies, systems and practices, as well as those of any third-party collaborators, service providers, contractors or consultants that process or transfer personal data collected in the European Union. The GDPR and other changes in laws or regulations associated with the enhanced protection of certain types of sensitive data, such as healthcare data or other personal information from our clinical trials, could require us to change our business practices and put in place additional compliance mechanisms, may interrupt or delay our development, regulatory and commercialization activities and increase our cost of doing business, and could lead to government enforcement actions, private litigation and significant fines and penalties against us and could have a material adverse effect on our business, financial condition or results of operations. Similarly, failure to comply with federal and state laws regarding privacy and security of personal information could expose us to fines and penalties under such laws. Even if we are not determined to have violated these laws, government investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which could harm our reputation and our business.

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

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

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

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. Current or future environmental laws and regulations may impair our research, development or production efforts, which could adversely affect our business, financial condition, results of operations or prospects. In addition, failure to comply with these laws and regulations may result in substantial fines, penalties or other sanctions.

Governments outside the United States tend to impose strict price controls, which may adversely affect our revenues, if any.

In some countries, such as the countries of the European Union, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we, or any future collaborators, may be required to conduct a clinical trial that compares the cost-effectiveness of our product to other available therapies. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be materially harmed.

A fast track designation by the FDA may not actually lead to a faster development, regulatory review or approval process.

If a product is intended for the treatment of a serious or life-threatening condition and the product demonstrates the potential to address unmet needs for this condition, the treatment sponsor may apply for FDA fast track designation. In July 2015, the FDA notified us that we obtained fast track designation for edasalonexent for the treatment of DMD. Fast track designation does not ensure that we will experience a faster development, regulatory review or approval process compared to conventional FDA procedures.

Additionally, the FDA may withdraw fast track designation if it believes that the designation is no longer supported by data from our clinical development program.

Although FDA has granted rare pediatric disease designation to edasalonexent for the treatment of DMD, that designation will not expedite or ensure approval of edasalonexent nor will it guarantee that we receive a Priority Review Voucher if edasalonexent is approved by the FDA for the treatment of DMD.

The FDA has awarded rare pediatric disease Priority Review Vouchers to sponsors of drug candidates to treat rare pediatric disease products, if the treatment sponsors apply for this designation and meet certain criteria. Under this program, upon the approval of a qualifying NDA or biologics license application, or BLA, for the treatment of a rare pediatric disease, the sponsor of such an application would be eligible for a rare pediatric disease Priority Review Voucher that can be used to obtain priority review for a subsequent NDA or BLA. The Priority Review Voucher may be sold or transferred an unlimited number of times. In September 2015, the FDA notified us that we obtained rare pediatric disease designation for edasalonexent for the treatment of DMD. This designation does not guarantee that an NDA for edasalonexent will meet the eligibility criteria for a rare pediatric disease priority review voucher at the time the application is approved. It also does not ensure expedited review or approval of edasalonexent for the treatment of DMD. With passage of the 21st Century Cures Act in December 2016, the Rare Pediatric Disease Priority Review Voucher program was reauthorized until 2020. In addition, if a product candidate is designated before October 1, 2020, as is the case with edasalonexent, it is eligible to receive a voucher if it is approved before October 2022. However, there is no guarantee that edasalonexent will be approved by that date and, therefore, we may not be in a position to obtain the Priority Review Voucher prior to expiration of the program.

We are subject to anti-corruption laws, as well as export control laws, customs laws, sanctions laws and other laws governing our operations. If we fail to comply with these laws, we could be subject to civil or criminal penalties, other remedial measures and legal expenses, which could adversely affect our business, results of operations and financial condition.

Our operations are subject to anti-corruption laws, including the U.K. Bribery Act 2010, or Bribery Act, the U.S. Foreign Corrupt Practices Act, or FCPA, and other anti-corruption laws that apply in countries where we do business and may do business in the future. The Bribery Act, FCPA and these other laws generally prohibit us, our officers, and our employees and intermediaries from bribing, being bribed or making other prohibited payments to government officials or other persons to obtain or retain business or gain some other business advantage. We may in the future operate in jurisdictions that pose a high risk of potential Bribery Act or FCPA violations, and we may participate in collaborations and relationships with third parties whose actions could potentially subject us to liability under the Bribery Act, FCPA or local anti-corruption laws. In addition, we cannot predict the nature, scope or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted.

We are also subject to other laws and regulations governing our international operations, including regulations administered by the governments of the United Kingdom and the United States, and authorities in the European Union, including applicable export control regulations, economic sanctions on countries and persons, customs requirements and currency exchange regulations, which we collectively refer to as the Trade Control Laws.

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

Risks Related to Employee Matters, Managing Growth and Information Technology

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

We are highly dependent on members of our senior management, including Jill C. Milne, Ph.D., our President and Chief Executive Officer, Joanne Donovan, M.D., Ph.D., our Chief Medical Officer, and Andrew Nichols, Ph.D., our Chief Scientific Officer. The loss of the services of any of these persons could impede the achievement of our research, development and commercialization objectives. Recruiting and retaining qualified scientific, clinical, manufacturing, sales and marketing personnel will also be critical to our success. The loss of the services of our executive officers or other key employees and any difficulties in

recruiting and retaining other critical personnel could impede the achievement of our research, development and commercialization objectives and seriously harm our ability to successfully implement our business strategy.

We undertook an organizational restructuring in April 2018 to reduce costs, in which we reduced our workforce by 40%. This restructuring increased our dependence on senior management and other key employees and could present significant additional risks including unintended consequences, such as attrition beyond our planned reduction in workforce and reduced employee morale, which may cause our remaining employees to seek alternate employment, fail to meet operational objectives as a result of decreased staffing, increased demands on our remaining employees and diversion of management's attention from ongoing business activities to implement and oversee the restructuring.

If we are unable to retain our executive officers or other key employees, replacing them may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to develop, gain marketing approval of and commercialize products successfully. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these additional key employees on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions.

We rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by other entities and may have commitments under consulting or advisory contracts with those entities that may limit their availability to us. If we are unable to continue to attract and retain highly qualified personnel, our ability to develop and commercialize our product candidates will be limited.

We expect to grow our organization significantly if our Phase 3 trial of edasalonexent for the treatment of DMD is successful, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

We expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of drug manufacturing, regulatory affairs and sales, marketing and distribution, if our Phase 3 trial of edasalonexent for the treatment of DMD is successful and we obtain FDA approval to market edasalonexent for the treatment of DMD in the United States. To manage these growth activities, we would need to implement and improve our managerial, operational and financial systems, expand our facilities and to recruit and train additional qualified personnel. Our management may need to devote a disproportionate amount of its attention to managing these growth activities. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or identify, recruit and train additional qualified personnel. Our inability to manage the expansion of our operations effectively may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Our expected growth could also require significant capital expenditures and may divert financial resources from other projects, such as the development of additional product candidates. If we are unable to effectively manage our expected growth, our expenses may increase more than expected, our ability to generate revenues could be reduced and we may not be able to implement our business strategy, including the successful commercialization of our product candidates.

Security breaches and other disruptions to our information technology systems could compromise our information, disrupt our business and expose us to liability, which would cause our business and reputation to suffer.

In the ordinary course of our business, we collect, process and store sensitive data, including intellectual property, as well as our proprietary business information, employee data and personally identifiable information of clinical trial participants. We also rely to a large extent on information technology systems to operate our business. We have outsourced elements of our confidential information processing and information technology structure, and as a result, we are managing independent vendor relationships with third parties who may or could have access to our confidential information. The secure maintenance of this information is important to our operations and business strategy. Despite our security measures, our information technology infrastructure, and that of our vendors and third-party providers, may be vulnerable to attacks by hackers or breached due to employee error, malfeasance or other disruptions. We, our vendors and third-party providers could be susceptible to third party attacks on our, and their, information security systems, which attacks are of ever-increasing levels of sophistication and are made by groups and individuals with a wide range of motives and expertise, including organized criminal groups, hacktivists, nation states and others. While we have invested in information technology security measures and the protection of confidential information, there can be no assurance that our efforts will prevent service interruptions or security breaches. Although we are not aware of any material information security incidents to date, we have detected common types of attempts to attack our information technology systems and data using means that have included phishing. Any service interruptions or security breaches of our information technology systems may substantially impair our

ability to operate our business and could compromise our networks, or those of our vendors and third-party providers, and the information stored could be accessed, publicly disclosed, lost or stolen. Any such access, disclosure, or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, disrupt our operations, and damage our reputation, any of which could adversely affect our business.

Risks Related to Our Common Stock

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

Our shares of common stock began trading on The Nasdaq Global Market, or Nasdaq, in June 2015. Given the limited trading history of our common stock, there is a risk that an active trading market for our shares will not be sustained, which could put downward pressure on the market price for our common stock and thereby affect the ability of our stockholders to sell their shares. An inactive trading market may also impair our ability to raise capital to continue to fund operations by selling shares and may impair our ability to acquire other companies or technologies by using our shares as consideration.

If we were to be delisted from The Nasdaq Stock Market, it could make trading in our stock more difficult.

There are various quantitative listing requirements for a company to remain listed on the Nasdaq, including maintaining a minimum bid price of $1.00 per share. No assurance can be given that we will continue to remain compliant with the minimum bid price requirement or Nasdaq's other continued listing requirements. For example, in August 2018, we received a deficiency letter from the Listing Qualifications Department of Nasdaq notifying us that, for the preceding 30 consecutive business days, the bid price for our common stock had closed below the minimum $1.00 per share requirement for continued inclusion on the Nasdaq Global Market as required by Nasdaq Listing Rule 5450(a)(1). In order to regain compliance, on December 28, 2018, we effected a one-for-ten reverse split of our common stock Any delisting would likely have a negative effect on the price of our common stock and would impair stockholders' ability to sell or purchase their common stock when they wish to do so.

The price of our common stock is likely to be highly volatile, which could result in substantial losses for our stockholders.

Our stock price is likely to be highly volatile. The stock market in general and the market for smaller pharmaceutical and biotechnology companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, our investors may lose some or all of their investments. The market price for our common stock may be influenced by many factors, including:

- the timing and results of clinical trials of edasalonexent and any of our other product candidates;
- commencement or termination of collaborations for our development programs;
- failure or discontinuation of any of our development programs;
- the success of existing or new competitive products or technologies;
- results of clinical trials of product candidates of our competitors;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- the results of our efforts to develop additional product candidates or products;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders or other stockholders;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in estimates or recommendations by securities analysts, if any, that cover our stock;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry and market conditions; and
- the other factors described in this "Risk Factors" section.

Additionally, in the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because smaller pharmaceutical and biotechnology companies have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

We are an "emerging growth company" and a "smaller reporting company," and the reduced disclosure requirements applicable to such companies may make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and may remain an emerging growth company until the last day of our fiscal year following the fifth anniversary of our IPO, subject to specified conditions. For so long as we remain an emerging growth company, we are permitted and plan to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, or SOX Section 404, not being required to comply 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, reduced disclosure obligations regarding executive compensation and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. Even after we no longer qualify as an emerging growth company, we may still qualify as a smaller reporting company, which would allow us to take advantage of many of the same exceptions from disclosure requirements, including not being required to comply with the auditor attestation requirements of SOX Section 404 and reduced disclosure obligations regarding executive compensation. Investors may find our common stock less attractive as a result of our reliance on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

We have incurred and will continue to incur increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, and particularly after we are no longer an "emerging growth company" or a "smaller reporting company," we have incurred and will continue to incur significant legal, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of The Nasdaq Global Market and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. We expect that we will need to hire additional accounting, finance and other personnel in connection with our efforts to comply with the requirements of being a public company and our management and other personnel will need to devote a substantial amount of time towards maintaining compliance with these requirements. These requirements will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. We are currently evaluating these rules and regulations

and cannot predict or estimate the amount of additional costs we may incur or the timing of such costs. These rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Pursuant to SOX Section 404 we are required to furnish reports by our management on our internal control over financial reporting with our Annual Reports on Form 10-K with the SEC. However, while we remain an emerging growth company or a smaller reporting company, we will not be required to include attestation reports on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with SOX Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that neither we nor our independent registered public accounting firm will be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by SOX Section 404. If we identify one or more material weaknesses, it could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

A portion of our total outstanding shares may be sold into the market in the near future, which could cause the market price of our common stock to decline significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares of common stock intend to sell shares, could reduce the market price of our common stock. As of October 31, 2019, we had outstanding 11,797,192 shares of common stock. As of October 31, 2019 we had outstanding warrants to purchase 4,200,000 shares of common stock at an exercise price of $12.00 per share, and 1,991,300 shares of common stock at an exercise price of $6.25 per share. These warrants are fully exercisable and we have registered the issuance of shares upon exercise of these warrants under registration statements. As a result, the shares issuable upon exercise of these warrants can be freely sold in the public marked upon issuance, subject to volume limitations applicable to affiliates.

We have filed registration statements registering all of the shares of common stock that we may issue under our equity compensation plans. As of October 31, 2019, we had outstanding options to purchase an aggregate of approximately 785,732 shares of our common stock, of which options to purchase approximately 274,370 shares were vested. These shares can be freely sold in the public market upon issuance and once vested, subject to volume limitations applicable to affiliates.

The number of shares of common stock underlying our outstanding warrants is significant in relation to our currently outstanding common stock, which could have a negative effect on the market price of our common stock and make it more difficult for us to raise funds through future equity offerings.

As part of our June 2018 equity financing we issued warrants to purchase an aggregate of 4,200,000 shares of common stock at an exercise price of $12.00 per share, all of which are outstanding, and as part of our February 2019 equity financing we issued warrants to purchase an aggregate of 2,000,000 shares of common stock at an exercise price of $6.25 per share, of which warrants to purchase 1,991,300 shares remain outstanding. Upon exercise in full of these outstanding warrants, the shares issuable upon exercise would represent a significant portion of our outstanding common stock. The warrants were fully exercisable upon issuance and remain exercisable for five years from their respective dates of issuance. We have registered the issuance of shares upon exercise of these warrants under a registration statements under the Securities Act of 1933, as amended, and, accordingly, such shares can be freely sold into the public market upon issuance, subject to volume limitations applicable to affiliates. Sales of these shares could cause the market price of our common stock to decline significantly. Furthermore, if our stock price rises, the holders of these warrants may be more likely to exercise their warrants and sell a large number of shares, which could negatively impact the market price of our common stock and reduce or eliminate any appreciation in our stock price that might otherwise occur.

We may also find it more difficult to raise additional equity capital while these warrants are outstanding. At any time during which these warrants are likely to be exercised, we may be unable to obtain additional equity capital on more favorable terms from other sources. In addition, the exercise of these warrants would result in a significant increase in the number of our outstanding shares of common stock, which could have the effect of significantly diluting the interest of our current stockholders, and following such

exercise the former holders of such warrants could have significant influence over our company as a result of the shares of common stock they acquire upon such exercise.

We do not anticipate paying any cash dividends on our capital stock in the foreseeable future, accordingly, stockholders must rely on capital appreciation, if any, for any return on their investment.

We have never declared nor paid cash dividends on our capital stock. We currently plan to retain all of our future earnings, if any, to finance the operation, development and growth of our business. Any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be investors' sole source of gain for the foreseeable future.

Provisions in our corporate charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our corporate charter and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which our investors might otherwise receive a premium for their shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions:

- establish a classified board of directors such that all members of the board are not elected at one time;
- allow the authorized number of our directors to be changed only by resolution of our board of directors;
- limit the manner in which stockholders can remove directors from the board;
- establish advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted on at stockholder meetings;
- require that stockholder actions must be effected at a duly called stockholder meeting and prohibit actions by our stockholders by written consent;
- limit who may call a special meeting of stockholder meetings;
- authorize our board of directors to issue preferred stock without stockholder approval, which could be used to institute a "poison pill" that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors; and
- require the approval of the holders of at least 75% of the votes that all our stockholders would be entitled to cast to amend or repeal certain provisions of our charter or bylaws.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the General Corporation Law of the State of Delaware, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner. This could discourage, delay or prevent someone from acquiring us or merging with us, whether or not it is desired by, or beneficial to, our stockholders.

Our certificate of incorporation designates the state courts in the State of Delaware or, if no state court located within the State of Delaware has jurisdiction, the federal court for the District of Delaware, as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could discourage lawsuits against the company and our directors and officers.

Our certificate of incorporation provides that, 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 any derivative action or proceeding brought on our behalf, any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or employees to our company or our stockholders, any action asserting a claim against us arising pursuant to any provision of the General Corporation Law of the State of Delaware or our certificate of incorporation or bylaws, or any action asserting a claim against us governed by the internal affairs doctrine. This exclusive forum provision may limit the ability of our stockholders to bring a claim in a judicial forum that such stockholders find favorable for disputes with us or our directors or officers, which may discourage such lawsuits against us and our directors and officers.

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

The trading market for our common stock will likely depend, in part, on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. There can be no assurance that analysts will cover us or provide favorable coverage. If one or more analysts downgrade our stock or change their opinion of our stock, our share price would likely decline. In addition, if one or more analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

Item 6. Exhibits

The exhibits filed as part of this Quarterly Report on Form 10-Q are set forth on the Exhibits Index below:

Exhibit Number	Exhibit
10.1	Sublease Agreement, dated as of September 9, 2019, by and between Allied Minds, LLC and the Registrant.
31.1	Certification of principal executive officer and principal financial officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of The Sarbanes-Oxley Act of 2002, by the Registrant's principal executive officer and principal financial officer
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Label Linkbase Document
101.PRE	XBRL Taxonomy Presentation Linkbase Document

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

Catabasis Pharmaceuticals, Inc.

Date: November 7, 2019

By: /s/ JILL C. MILNE, PH.D.
Jill C. Milne, Ph.D.
President, Chief Executive Officer (Principal Executive Officer and Principal Financial Officer)

Execution Copy

SUBLEASE

This Sublease (the "**Sublease**") is entered into effective as of September 9, 2019 (the "**Effective Date**") by and between Allied Minds, LLC, a Delaware limited liability company ("**Sublandlord**"), and Catabasis Pharmaceuticals, Inc., a Delaware corporation ("**Subtenant**").

RECITALS

A. SPUS7 High Street, LP ("**Prime Landlord**") as landlord, and Sublandlord, as tenant, are parties to a Lease dated as of December 31, 2015 (the "**Prime Lease**"), a copy of which is attached hereto as Exhibit A, pursuant to which Prime Landlord leased to Sublandlord certain premises on the 28th floor of the building located at 100 High Street, Boston, Massachusetts (the "**Building**"), consisting of approximately 11,472 rentable square feet and commonly referred to as Suite 2800 (the "**Premises**"), which Premises are more particularly described in the Prime Lease. Capitalized terms used and not defined in this Sublease shall have the meanings set forth in the Prime Lease.

B. Sublandlord has agreed to sublet to Subtenant and Subtenant has agreed to sublet from Sublandlord the entire Premises (as defined in the Prime Lease), all on the terms and conditions set forth in this Sublease.

AGREEMENTS

NOW, THEREFORE, in consideration of the rents herein provided and of the covenants and agreements herein contained and intending to be legally bound hereby, Sublandlord and Subtenant hereby covenant and agree as follows:

1. Subleased Premises.

(a) Demise. Sublandlord hereby demises and subleases to Subtenant, and Subtenant hereby takes and subleases from Sublandlord, the entire Premises, as such term is used in the Prime Lease (referred to herein as the "**Subleased Premises**"), subject to and in accordance with the terms and provisions of this Sublease.

(b) Common Areas. Subtenant shall have the right, as appurtenant to its sublease of the Subleased Premises during the Sublease Term (as defined in Section 2 below), to use the common areas of the Building (as described in the Prime Lease) in common with Sublandlord and other parties with rights thereto in accordance with and subject to the terms of the Prime Lease including without limitation the reservations therein contained.

2. Sublease Term. For purposes of this Sublease, the "**Sublease Commencement Date**" shall be the later of (i) the date on which Sublandlord delivers full and exclusive possession of the Subleased Premises to Subtenant in the Delivery Condition (as that term is hereinafter defined); and (ii) the date on which Subtenant receives a fully-executed copy of the Prime Landlord's Consent (as that term is hereinafter defined). Sublandlord shall use commercially reasonable good faith efforts to deliver full and exclusive possession of the Subleased Premises to Subtenant in the Delivery Condition to Subtenant on November 1, 2019. If for any reason the Sublease Commencement Date has not occurred on or before November 10, 2019, Subtenant shall receive an abatement of Monthly Base Rent of one (1) day of Monthly Base Rent for each day in the period commencing on November 10, 2019 and ending on the Sublease Commencement Date ("**Monthly Base Rent Abatement**"). If for any reason the Sublease Commencement Date has not occurred by December 31, 2019, Subtenant shall have the right to terminate this Sublease by written notice to Sublandlord, whereupon all letters of credit and other amounts paid by Subtenant hereunder shall be forthwith returned to Subtenant and this Sublease shall be void without recourse to the parties hereto. The term of this Sublease (the "**Sublease Term**") shall commence on the Sublease Commencement Date, and end on the earlier of (i) July 31, 2022 or (ii) the termination of the Prime Lease (the "**Sublease Expiration Date**"), unless sooner terminated as a result of a Sublease Default (as that term is hereinafter defined) in accordance herewith.

3. Sublease Rent; Security Deposit.

(a) Subject to any Monthly Base Rent Abatement, commencing on the date which is sixty (60) days from the Sublease Commencement Date ("**Sublease Rent Commencement Date**"), and continuing throughout the Sublease Term, Subtenant shall pay to Sublandlord, without prior demand therefore, in advance on the first day of each calendar month, as monthly rent ("**Monthly Base Rent**") the following:

Sublease Period		Monthly Base Rent
Sublease Rent Commencement Date - 12/31/2020	$	60,706.00
01/01/2021-12/31/2021	$	61,662.00
01/01/2022-07/31/2022	$	62,618.00

(b) In addition to the Monthly Base Rent, Subtenant covenants and agrees to pay Sublandlord, commencing on January 1, 2021 with respect to Operating Expenses, and commencing on July 1, 2020 with respect to Taxes, and on the first day of each subsequent calendar month during the Sublease Term, as additional rent under this Sublease, an amount (which amount, together with the Monthly Base Rent and all other additional rent payable under this Sublease, shall be referred to herein as the "**Sublease Rent**") equal to (i) Tenant's Share of the amount by which Operating Expenses (as defined in the Prime Lease) exceed Operating Expenses for calendar year 2020 (January 1, 2020 — December 31, 2020) (the "**Operating Expenses Base Year**"), such amount to be apportioned for any portion of a calendar year (being January 1st thru December 31st) in which the Sublease Term expires; and (ii) Tenant's Share of the amount by which Taxes (as defined in the Prime Lease) exceed Taxes for tax fiscal year 2020 (July 1, 2019 - June 30, 2020) (the "**Tax Base Year**"), such amount to be apportioned for any portion of a tax year (being July 1st thru June 30th) in which the Sublease Term expires. Subtenant shall also pay charges for utilities (including electricity) that are from time to time payable by Sublandlord to Prime Landlord during the Sublease Term for the Subleased Premises under the terms of the Prime Lease as well as all charges or costs incurred due to a request or direct action by Subtenant (i.e. work orders, additional cleaning services, etc.) which incur additional charges under the Prime Lease. Sublandlord and Subtenant agree that Subtenant shall not be responsible for or obligated to pay all or any portion of any financial obligations imposed on Sublandlord pursuant to the Prime Lease, except those expressly set forth in this Sublease. Any ambiguity in the terms of this Sublease shall be construed in accordance with such intention. All Sublease Rent shall be payable to Sublandlord at the address from time to time designated in writing by Sublandlord, without set-off, offset, abatement or deduction whatsoever. Sublease Rent shall be prorated for any partial calendar month at the beginning or end of the Sublease Term.

(c) Concurrently with Subtenant's execution and delivery of this Sublease, Subtenant shall deliver to Sublandlord a clean, irrevocable letter of credit in the amount of $364,236.00, which shall comply with, and may be drawn by Sublandlord in accordance with, the provisions of Exhibit C attached hereto (such letter of credit, together with any renewal or replacement thereof in accordance herewith, being referred to herein as the "**Letter of Credit**"). Sublandlord confirms and agrees that the letter of credit attached hereto as Exhibit D is acceptable in form and substance to Sublandlord. Upon Subtenant's receipt of new funding for its business operations in excess of $15,000,000.00 (the "**LOC Reduction Event**") and delivery to Sublandlord of notice of the occurrence of the LOC Reduction Event, the Subtenant may replace or amend the existing Letter of Credit with a new Letter of Credit (complying with all other terms of Exhibit C) in the amount of $121,412.00, or amend the original letter of credit to reduce the amount of the same to said amount, and in the event of a replacement, Sublandlord shall immediately return the original letter of credit to Subtenant.

4. Permitted Uses. Subtenant shall use the Subleased Premises solely for the Permitted Use under the Prime Lease and for no other purpose, all in accordance with and subject to the provisions of the Prime Lease. Subtenant shall use the common areas solely in accordance with the provisions of the Prime Lease.

5. Condition of Subleased Premises.

(a) Delivery Condition. Sublandlord and Subtenant agree that the Subleased Premises shall be delivered to Subtenant, and Subtenant accepts the Subleased Premises in their "as is, where is" condition as of the Effective Date, reasonable wear and tear excepted, except that the Subleased Premises shall be vacant, free of all personal property (except the Furniture (as that term is hereinafter defined)) and debris and in broom clean condition (the "**Delivery Condition**"). Subtenant acknowledges that no representations or warranties have been made to Subtenant with respect to the condition of the Subleased Premises, except as specifically set forth in this Sublease, and that Subtenant relied upon its own examination of the Subleased Premises in entering into this Sublease, except as expressly set forth herein.

(b) Maintenance. Subtenant shall keep and maintain the Subleased Premises and all fixtures and equipment therein clean and in substantially in the same condition as existing upon their delivery to Subtenant hereunder, except for reasonable wear and tear, damage by fire or other casualty, or damage as a result of acts or omissions by Sublandlord or Prime Landlord, or their respective employees, agents and contractors.

(c) Alterations. Subtenant shall not make any additions, alterations, changes or improvements to the Subleased Premises without the prior written consent of Sublandlord (which shall not be unreasonably withheld, conditioned or delayed) and, if required under the Prime Lease, the consent of Prime Landlord.

(d) Signage. If necessary and after its own review and approval, Sublandlord shall reasonably cooperate, at no cost to Sublandlord, with Subtenant in obtaining any required consent by Prime Landlord for Subtenant signage. Any such signage for Subtenant shall be installed only with the prior approval of Sublandlord (which shall not be unreasonably withheld, conditioned or delayed) and (if applicable) Prime Landlord in accordance with the provisions of the Prime Lease.

(e) Parking. Sublandlord shall provide Subtenant with Sublandlord's rights to six (6) parking spaces in the parking facilities associated with the Building on the terms and conditions of the Prime Lease (the "**Parking Spaces**"). Subtenant shall be obligated to pay the then current rate for the Parking Spaces charged by Prime Landlord or its third-party vendor.

(f) Furniture. Sublandlord shall leave the furniture listed on Exhibit B (the "**Furniture**") in the Subleased Premises and for Subtenant's use at no additional cost or expense to Subtenant. The Furniture shall be provided to the Subtenant in its "as-is, where is" condition and Sublandlord is not providing any representations or warranties regarding its current condition. Subtenant represents to Subtenant that the Sublandlord owns the Furniture, lien free, and no third party has any right, title or interest in the Furniture. Sublandlord shall not remove, sell or otherwise interfere with Subtenant's use of the Furniture during the Sublease Term. Provided the Subtenant complies with the terms of this Sublease, then on the Sublease Expiration Date, Sublandlord's right, title and interest in the Furniture shall be transferred to Subtenant and Subtenant shall be responsible for removing the Furniture from the Subleased Premises in accordance with the requirements of the Prime Lease.

(g) Telecommunications. Sublandlord agrees to reasonably cooperate (at no cost to Sublandlord) with Subtenant's efforts to install telecommunications at the Subleased Premises in connection with the Permitted Use.

6. Prime Lease Provisions.

(a) Representations and Covenants by Sublandlord.

(i) As of the Effective Date, Sublandlord represents and warrants to Subtenant that, (i) the Prime Lease attached hereto as Exhibit A is a true and correct and complete copy thereof, (ii) the Prime Lease has not been amended, modified or supplemented, and is in full force and effect, (iii) the term of the Prime Lease expires by its terms on July 31, 2022, (iv) there are no alterations, additions, installations, or other work in the Sublased Premises that Sublandlord is required to remove, and there is no restoration of or in the Subleased Premises that Sublandlord is required to perform, at the expiration or earlier termination of the Prime Lease; (v) Sublandlord has neither given nor received any notices of default to or from Prime Landlord, and to the best of its knowledge, neither Prime Landlord nor Sublandlord are in default under the Prime Lease (and no circumstances exist which, with the passage of time or giving of notice, or both, could ripen into a default by Prime Landlord or Sublandlord under the Prime Lease). The foregoing representations, and all other representations of Sublandlord under this Sublease shall be deemed repeated as of the Sublease Commencement Date;

(ii) Sublandlord agrees to: (i) to timely perform all of its obligations under the Prime Lease; and not to do or fail to do (or suffer to be done) anything that, with the passage of time or the giving of notice, or both, could constitute a default under the Prime lease; (ii) not to modify or amend the Prime Lease in any way that might adversely affect

the Sublease or Subtenant's rights and privileges or Subtenant's obligations or liabilities under the Sublease; and (iii) not to voluntarily cancel or terminate the Prime Lease.

(iii) Sublandlord shall promptly provide Subtenant with copies of all notices Sublandlord receives from Prime Landlord; and in the event of any notice of default, Subtenant shall, to the extent permitted under the Prime Lease, have the right (but not obligation) to cure the same and have Prime Landlord accept cure as if performed by Sublandlord;

(iv) Any limitation of Sublandlord's recourse to Prime Landlord's interest in the building should not apply to this Sublease, however any recovery by Subtenant against Sublandlord shall be expressly limited to the assets directly owned or held by Sublandlord and no liability shall extend to its officers, members, owners, managers or affiliated entities;

(v) Upon written request by Subtenant, Sublandlord shall reasonably cooperate with Subtenant in obtaining any required consents or approvals from Prime Landlord.

(vi) Sublandlord shall not have the right to exercise any of the rights provided to the Prime Landlord under Section 9.01 or Section 10.01 of the Prime Lease to terminate the Prime Lease in the event of a casualty or condemnation.

(b) Subordination, Etc. This Sublease shall be subject and subordinate in all respects to the Prime Lease and to all of its terms, covenants and conditions. Subtenant shall not do, or permit to suffer to be done, any act or omission by Subtenant, its agents, employees, contractors or invitees that is prohibited by the Prime Lease, or that would constitute a violation or default thereunder. Except to the extent expressly provided herein, the terms of the Prime Lease are incorporated into this Sublease provided however that Subtenant shall not have any direct rights to seek services from or bring an action against the Prime Landlord.

(c) Termination of Prime Lease. If the Prime Lease is terminated during the Sublease Term for any reason, this Sublease shall terminate on the date of such termination of the Prime Lease, with the same force and effect as if such termination date had been specified in this Sublease as the expiration date hereof. Unless such termination is the result of (i) a Default by Sublandlord (as such term is defined in the Prime Lease) provided such Default is not the result of a Sublease Default or any act or omission of Subtenant or its agents, employees, or invitees, or (ii) a voluntary termination of the Prime Lease, Sublandlord shall have no liability to Subtenant in the event of such termination, notwithstanding the reason for such termination, including, without limitation, any such termination caused by the exercise of any termination right by Prime Landlord or Sublandlord under the Prime Lease, including without limitation on account of a casualty or

condemnation. Notwithstanding the foregoing, Sublandlord agrees not to voluntarily terminate the Prime Lease.

(d) Prime Landlord's Obligations. Notwithstanding anything to the contrary in this Sublease or the Prime Lease, Sublandlord shall have no obligation to perform any of the terms, covenants and conditions contained in the Prime Lease to be performed by the Prime Landlord. Without limiting the foregoing, Sublandlord shall have no obligation to provide any or all of the services, utilities, parking, work alterations, repairs or maintenance to be provided by Prime Landlord under the Prime Lease, and Sublandlord shall in no way be liable to Subtenant for any failure of Prime Landlord to provide such services, utilities, parking, work, alterations, repairs or maintenance; provided, however, Sublandlord shall use commercially reasonable efforts to cause Prime Landlord to fulfill and perform its obligations and to provide the services to be provided by the Prime Landlord under the Prime Lease.

(e) Prime Landlord Consent. Except in connection with a request under Section 9 of this Sublease, whenever the consent of Prime Landlord is required under the Prime Lease, Subtenant shall obtain the consent of both Sublandlord and Prime Landlord, but in all instances Sublandlord shall grant its consent if Prime Landlord grants its consent. Sublandlord shall use commercially reasonable efforts to obtain Prime Landlord's consent whenever such consent is required under the Prime Lease.

(f) Consent to Sublease. Sublandlord and Subtenant acknowledge and agree that the effectiveness of this Sublease is conditioned upon and/or subject to the receipt from Prime Landlord of Prime Landlord's written consent to this Sublease ("**Prime Landlord's Consent**"). Sublandlord has requested Prime Landlord's consent to this Sublease by providing on August 1, 2019 notice to Prime Landlord pursuant to Section 16.02 of the Prime Lease. Sublandlord shall use good faith efforts to obtain Prime Landlord's Consent and shall keep Subtenant reasonably informed as to the status of the same. Promptly upon receipt of Prime Landlord's Consent, Sublandlord and Subtenant shall promptly review and approve the same, such approval not to be unreasonably withheld, delayed or conditioned, and execute and deliver the Prime Landlord's Consent. If for any reason Prime Landlord's Consent has not been received, executed and delivered by Prime Landlord, Sublandlord and Subtenant on or before October 15, 2019, Subtenant shall have the right, upon written notice to Sublandlord, to terminate this Sublease, whereupon all letters of credit and other amounts paid by Subtenant hereunder shall be forthwith returned to Subtenant and this Sublease shall be void without recourse to the parties hereto.

7. Indemnity and Insurance.

(a) Indemnification. Subtenant shall defend, save harmless, and indemnify Sublandlord from and against all matters set forth in Section 11.02 or other provisions of the Prime Lease, to the extent the same arise from either (i) Subtenant's use or occupancy of the Subleased Premises or the common areas under this Sublease, or (ii) the negligence or willful misconduct of Subtenant or Subtenant's contractors, licensees, invitees, agents, servants, independent contractors or employees. Sublandlord shall defend, save harmless, and indemnify Subtenant from and against all claims, costs, fees (including, without limitation, attorneys' fees and court costs), expenses, damages, fines and penalties, to the extent the same arise from (i) the negligence or willful misconduct of Sublandlord or Sublandlord's contractors, licensees, invitees, agents, servants, independent contractors or employees, or (ii) any material misrepresentation or any breach or default by Sublandlord under this Sublease. In connection with a default of the Sublease by Sublandlord, Subtenant shall have the right to seek claims, costs, fees (including, without limitation, attorneys' fees and court costs), expenses, damages, fines, penalties, to the extent the same arise from Sublandlord's default. In no event shall either party be liable to the other for consequential, indirect, exemplary, or punitive damages, except that Subtenant shall be liable for such damages Prime Landlord may impose under Section 11.02 of the Prime Lease in connection with a default by Subtenant under the terms hereof.

(b) Insurance. Subtenant shall maintain all insurance required with respect to the Subleased Premises during the Sublease Term under the terms of the Prime Lease. Such insurance shall name Sublandlord and Prime Landlord as additional insureds. Subtenant shall furnish Sublandlord and Prime Landlord with certificates of insurance evidencing the coverages maintained by Subtenant with respect to the Subleased Premises in accordance with the Prime Lease. The provisions of Section 12.08 (Waiver of Subrogation) of the Prime Lease are incorporated by reference into this Sublease and shall apply as between Sublandlord and Subtenant.

8. Notices. All notices, demands, or other communications under this Sublease shall be sent by personal delivery, by a national overnight courier service, or by certified mail to the following addresses (or to such other address(es) as either party may designate by notice to the other) and shall be deemed given when received:

To Sublandlord: Allied Minds, LLC
374 Congress Street
Boston, MA 02210
Attention: General Counsel

To Subtenant: Catabasis Pharmaceuticals, Inc.
100 High Street, Suite 2800
Boston, MA 02110
Attention: General Counsel

9. Assignment and Subletting. Subtenant shall not, by operation of law or otherwise, assign, transfer or encumber this Sublease, nor sublet or permit the Subleased Premises or any part thereof to be used by any other person or entity without the prior written consent in each instance of both Sublandlord, whose consent shall not be unreasonably withheld, conditioned or delayed, and (if applicable) Prime Landlord, whose consent may be granted or withheld in accordance with the terms of the Prime Lease.

10. Fire or Casualty; Eminent Domain. In the event the Subleased Premises (or access thereto or systems serving the same) are the subject of a fire or other casualty or a taking by eminent domain that interferes with the use and enjoyment by Subtenant of a material portion of the Subleased Premises, Subtenant shall be entitled to an equitable adjustment of the Sublease Rent until tenantable occupancy is restored, to the extent such rent is abated under the Prime Lease.

11. Default. In the event that Subtenant shall fail to timely perform any of its obligations under this Sublease and such failure continues (i) in the case of a monetary default, for three (3) days after the due date, any Sublease Rent is due and payable by Subtenant under the Sublease, provided, however, on the first (1st) occasion with respect to such failure during any twelve (12) month period, Sublandlord shall furnish Subtenant with written notice of such failure and permit Subtenant a three (3) day period to cure such failure, or (ii) for three (3) days after notice from Sublandlord, in the case of any other monetary default, or (iii) in the case of any other obligation hereunder, if such failure or default continues for more than fifteen (15) days after delivery of written notice thereof (the foregoing shall be referred to herein as "**Sublease Defaults**"), Sublandlord shall have the right to terminate this Sublease by written notice to Subtenant and enforce, with respect to this Sublease and the Subtenant hereunder, any or all of the rights and remedies available to Prime Landlord under the Prime Lease on account of a default by the tenant thereunder.

12. Brokers. Sublandlord and Subtenant each warrants and represents to the other that it had no dealing with any broker or finder concerning the subletting of the Subleased Premises other than T3 Advisors (the "**Broker**"), which shall be compensated by the Sublandlord in accordance with a separate agreement between Broker and Sublandlord. Each party hereto agrees to indemnify and hold the other party harmless from any and all liabilities and expenses, including, without limitation, reasonable attorneys' fees, arising out of claims against the other party by any other broker, consultant, finder or like agent, other

than the Broker, claiming to have brought about this Sublease based upon the alleged acts of the indemnifying party.

13. Surrender of Subleased Premises. At the expiration or earlier termination of the Sublease Term, Subtenant shall quit and surrender the Sublease Premises substantially in the same condition as the Subleased Premises were in on the Sublease Commencement Date, reasonable wear and tear and damage by fire or other casualty or taking excepted. Without limitation of any of the foregoing, Subtenant shall on or before the expiration or termination of this Sublease, remove all of Subtenant's personal property and repair any damage caused by such removal. If any personal property of Subtenant shall remain in the Subleased Premises after the termination of this Sublease, at the election of Sublandlord, (i) it shall be deemed to have been abandoned by Subtenant and may be retained by Sublandlord as its own property or (ii) such property may be removed and disposed of by Sublandlord at the expense of Subtenant. The rights of Sublandlord shall be in addition to the rights of Prime Landlord under Article 8 of the Prime Lease and Subtenant shall be responsible for all of the obligations of Tenant under such Article 8. Subtenant's obligation to observe or perform under this Section shall survive the expiration or termination of this Sublease. Notwithstanding the foregoing, if Sublandlord is required to remove or restore any portion of the Subleased Premises prior to the surrender of the Subleased Premises to Prime Landlord to ensure compliance with the Prime Lease, Sublandlord, and not Subtenant, shall be solely responsible therefor. Sublandlord shall perform any such removal and restoration on weekends and during non-business hours during the last week of the Sublease Term, provided such work does not interfere with or disturb Subtenant's use and occupancy of the Subleased Premises. Subject to the foregoing, Subtenant shall provide reasonable access to Sublandlord during such periods to effectuate such removal or restoration.

16. Miscellaneous.

(a) This Sublease (i) contains the entire agreement of the parties with respect to the subject matter which it covers; (ii) supersedes all prior or other negotiations, representations, understandings and agreements of, by or between the parties with respect to the Subleased Premises or any portion thereof, which shall be deemed fully merged herein; (iii) shall be construed and governed by the laws of the State in which the Building is located; and (iv) may not be changed or terminated orally.

(b) This Sublease may be executed in any number of counterparts, each of which shall be deemed to be an original and all of which shall constitute one and the same instrument. The Sublease may be executed by electronic (PDF, facsimile, etc.) means, such electronic signatures or electronic transmittal of signatures to be binding on the parties.

(c) The captions herein are inserted only as a matter of convenience and for reference and in no way define, limit, construe or describe the scope of this Sublease or the meaning or intent of any provision hereof.

(d) This Sublease shall be binding upon and inure to the benefit of the parties hereto and their respective permitted successors and assigns.

(e) The failure of Sublandlord or Subtenant to insist in any one or more instances upon the strict performance of any of the covenants, agreements, terms, provisions or conditions of this Sublease, or to exercise any election or option contained herein, shall not be construed as a waiver or relinquishment, in the future or in any other instance, of such covenant, agreement, term, provisions, condition, election or option.

(f) No partner, member, shareholder, beneficial owner, officer, director, manager or other beneficial owner in either party hereto shall have any liability to the other party for any matters arising under or in connection with this Sublease.

[PAGE ENDS HERE — SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the parties hereto have duly executed this Sublease as of the day and year first above written.

SUBLANDLORD:

ALLIED MINDS, LLC,
a Delaware limited liability company

By: /s/ Joseph Pignato
Name: Joseph Pignato
Title: CO-CEO

SUBTENANT:

CATABASIS PHARMACEUTICALS, INC.,
a Delaware corporation

By: /s/ Jill C. Milne
Name: Jill C. Milne
Title: CEO

Exhibit A

Prime Lease

[SEE ATTACHED]

OFFICE LEASE

by and between

SPUS7 HIGH STREET, LP,
a Delaware limited partnership,
as Landlord

and

ALLIED MINDS, LLC,
a Delaware limited liability company,
as Tenant,

Premises:

100 High Street
Suite 2800
Boston, Massachusetts 02110

TABLE OF CONTENTS

OFFICE LEASE

This Office Lease ("Lease") is dated effective and for identification purposes as of December 31, 2015, and is made by the parties hereinafter identified as Landlord and Tenant and upon the following terms and conditions:

ARTICLE 1 - BASIC LEASE PROVISIONS

1.01	Landlord's Address for Notice:	SPUS7 High Street, LP c/o CBRE Global Investors 515 South Flower Street, 31st Floor Los Angeles, CA 90071-2233 Attn: Asset Mgr 100 High (Boston)
	With a copy of all notices going to:	CBRE, Inc. 100 High Street, Suite 140 Boston, Massachusetts 02110 Attention: Property Manager
	Rent payment address:	SPUS7 High Street LP P.O. Box 75603 Baltimore, MD 21275-5603
1.02	Tenant and Address for Notice:	Prior to Occupancy Date: ALLIED MINDS, LLC 33 Arch Street, Suite 3201 Boston, Massachusetts 02110 Attention: General Counsel Subsequent to Occupancy Date: ALLIED MINDS, LLC 100 High Street, Suite 2800 Boston, Massachusetts 02110 Attention: General Counsel

1.03 Building: The building and improvements located at 100 High Street, Boston Massachusetts 02110, together with the land parcel on which it is constructed and all appurtenances thereto. The Building contains approximately 546,336 rentable square feet of space, which is the final agreement of the parties.

1.04 Premises: Suite 2800 as shown on the floor plan attached hereto as **Exhibit A**. The Premises contains approximately 11,472 rentable square feet, which is the final agreement of the parties for the purpose of determining Base Rent.

1.05 Commencement Date: The date of execution hereof.

1.06 Term: Seventy-Two (72) full calendar months and any partial month following the Rent Commencement Date.

1.07 Rent Commencement Date: August 1, 2016.

1.08 Expiration Date: July 31, 2022 (i.e., the last day of the seventy-second (72^{nd}) full calendar month following the Rent Commencement Date).

1.09 Base Rent:

Dates	Annual Base Rent / RSF	Monthly Installment of Base Rent
08/01/16 — 07/31/17	$ 60.50	$ 57,838.00
08/01/17 — 07/31/18	$ 61.50	$ 58,794.00
08/01/18 — 07/31/19	$ 62.50	$ 59,750.00
08/01/19 — 07/31/20	$ 63.50	$ 60,706.00
08/01/20 — 07/31/21	$ 64.50	$ 61,662.00
08/01/21 — 07/31/22	$ 65.50	$ 62,618.00

1.10 Tenant's Share: 2.10%, which amount is equal to the fraction (expressed as a percentage) determined by dividing the number of rentable square feet within the Premises by the number of rentable square feet within the Building. The Building contains approximately 546,336 rentable square feet of space, which is the final agreement of the parties and not subject to adjustment.

1.11 Electrical Charge: Submetered and billed to Tenant on a monthly basis payable within thirty (30) days following delivery of an invoice therefor. The cost to install a submeter will be at Landlord's expense. The Electrical Charge is in addition to the Operating Expenses (and the cost of electricity to leasable areas of the Building shall not be included in the definition of Operating Expenses).

1.12 Base Year:

(a) Expense Base Year: Operating Expenses actually applicable to calendar year 2016.
(b) Tax Base Year: Taxes applicable to fiscal year 2017 (i.e., July 1, 2016 to June 30, 2017).

1.13 Security Deposit: One Hundred Fifteen Thousand Six Hundred Seventy-Six and No/100ths Dollars ($115,676.00). The Security Deposit shall decline pursuant to the following schedule:

Reduction Effective Date	Amount Reduced	Amount Remaining
1st Day of Month 36	$ 115,676.00	$ 0.00

Notwithstanding the foregoing, the Security Deposit shall cease to decline for the balance of the Term of the Lease upon any event of default beyond any applicable notice and cure period. Further, any applicable Reduction Effective Date shall be delayed until such time as Tenant has not been late in the payment of Rent on more than one (1) occasion in the previous twelve (12) month period.

1.14 Brokers: Landlord's Broker - CBRE/New England
Tenant's Broker — Mohr Partners

1.15 Allowance: Four Hundred One Thousand Five Hundred Twenty and No/100ths ($401,520.00) (see the Work Letter which sets forth additional terms regarding the Allowance and applicable dates and terms regarding the delivery of the Premises).

1.16 Permitted Use: General office uses in keeping with the first class nature of the Building.

1.17 Parking Spaces: Six (6) parking spaces in such areas of the parking facilities associated with the Building as may be reasonably designated by Landlord from time to time (i.e., a ratio of 0.5/1,000 rentable square feet of space in the Premises) ("Parking Spaces"). None of the Parking Spaces shall be assigned or reserved, unless Tenant elects to lease any reserved Parking Spaces in which case Tenant shall pay the amount set forth in Section 1.18 for each reserved Parking Space. The Parking Spaces shall be leased as of the date that Tenant occupies the Premises for the conduct of Tenant's business (the "Occupancy Date"), and Tenant shall provide notice to Landlord of the Occupancy Date not less than ten (10) business days prior thereto; however, in the event that Tenant surrenders any of the Parking Spaces subsequent to the Occupancy Date, Tenant's right to re-lease the surrendered spaces shall be subject to availability. All parking is leased pursuant to a separate

written parking agreement and Tenant agrees to enter into any commercially reasonable agreement regarding the Parking Spaces required by any third-party vendor of Landlord (and Tenant shall cooperate with such vendor and comply with any commercially reasonable rules and regulations promulgated by such vendor that are generally applicable to all persons parking in the parking areas associated with the Building).

1.18 Monthly Parking Rent: Tenant shall pay the standard parking rate per Parking Space, which is currently Five Hundred Dollars ($500.00) per month per unreserved Parking Space and Six Hundred Dollars ($600.00) per month per reserved Parking Space (subject to change upon thirty (30) days' advance written notice to Tenant), payable as Rent.

1.19 Initial Payment: Simultaneously with the delivery of this Lease to Landlord, Tenant shall deliver the following amounts to Landlord:

Item		Amount
Security Deposit	$	115,676.00
Base Rent for Month 1	$	57,838.00
Total Due on Execution	$	173,514.00

The words identified in this Article 1 shall have the meanings ascribed to them in this Article 1 for all purposes of this Lease.

ARTICLE 2 — DEMISE; TERM; USE; COMPLIANCE

2.01 **Demise**. Landlord hereby leases to Tenant and Tenant hereby leases from Landlord the Premises for the Term and upon the terms, covenants and conditions set forth in this Lease. Tenant hereby accepts the Premises and the Building in their respective present "as is", "where is" and "with all faults" condition, except as otherwise specifically set forth in this Lease (including, without limitation, Landlord's maintenance and repair obligations and Landlord's construction obligations under the Work Letter (if any)). This Lease shall be in full force and effect from the date it is signed and delivered by Landlord and Tenant. Tenant covenants as a material part of the consideration for this Lease to keep and perform each and all of the terms, covenants and conditions by it to be kept and performed. This Lease is made upon the condition of such performance.

2.02 **Term**. The term of this Lease shall commence on the Commencement Date and expire on the Expiration Date unless sooner terminated as provided in this Lease and except as provided in the Work Letter attached hereto as **Exhibit B**. If Landlord shall be unable to deliver possession of the Premises to Tenant on the Commencement Date for any reason whatsoever, this Lease shall not be void or voidable and Landlord shall not be subject to any liability for the failure to deliver possession on said date nor shall such failure to deliver possession on the Commencement Date affect the validity of this Lease or the obligations of Tenant hereunder. Within thirty (30) days following the later of (i) the Commencement Date or (ii) Tenant's initial occupancy of the Premises, Tenant shall execute and deliver to Landlord a confirmation of certain dates applicable to this Lease substantially in the form attached hereto as **Exhibit C** and incorporated herein by this reference. Tenant's entry into or occupancy of the Premises prior to the Commencement Date for any purpose (including construction) shall be governed by the terms and conditions of this Lease.

2.03 **Use**. Tenant shall use and occupy the Premises solely for the Permitted Uses and for no other use or purpose. Tenant shall not commit, or suffer to be committed, any annoyance, waste, nuisance, act or thing against public policy, or which may disturb the quiet enjoyment of Landlord or any other tenant or occupant of the Building. Tenant agrees not to deface or damage the Building in any manner.

2.04 **Compliance**. Tenant agrees to observe the reservations and rights reserved to Landlord in this Lease. Tenant shall comply, and shall endeavor to cause its employees, agents, clients, customers, guests and invitees to comply, with all applicable laws governing the use and occupancy of the Premises, as well as the rules and regulations attached hereto as **Exhibit D**, and such reasonable revised or additional rules and regulations adopted by Landlord during the Term and applied generally to all office tenants of the Building. Any violation by Tenant or any

of its employees, agents, clients, customers, guests or invitees of any of the rules and regulations so adopted by Landlord shall be a default by Tenant under this Lease and may be restrained by court injunction; but whether or not so restrained, Tenant acknowledges and agrees that it shall be and remain liable for all damages, loss, costs and expense resulting from any violation by Tenant or such other persons of any of said rules and regulations. Landlord shall not discriminate against Tenant in the enforcement of said rules and regulations, provided, however, Landlord shall not be liable to Tenant for violation of the same by any other tenant, its employees, agents, guests, invitees, licensees, customers, clients, family members, or by any other person.

2.05 **Premises Condition**. No agreements or representations, except such as are expressly contained herein and in the Work Letter attached hereto, if any, have been made to Tenant respecting the condition of the Premises. By taking possession, Tenant conclusively waives all claims relating to the condition of the Premises and accepts the Premises as being free from defects and in good, clean and sanitary order, condition and repair, and agrees to keep the Premises in such condition, ordinary wear and tear and casualty excepted.

2.06 **Signage**. Landlord shall provide Building standard suite signage on multi-tenant floors. Subsequent changes shall be at the sole expense of Tenant and subject to Landlord's review and approval, not to be unreasonably withheld.

ARTICLE 3 - SECURITY DEPOSIT

As security for the performance of its obligations under this Lease, Tenant, on execution of this Lease, shall deposit with Landlord the Security Deposit, and agrees from time to time to pay Landlord within five (5) business days following receipt of a request therefor, any sum or sums of money paid or deducted therefrom by Landlord pursuant to the provisions of this Lease, in order that at all times during the Term there shall be continually deposited with Landlord, a sum which shall never be less than the amount originally deposited. The Security Deposit shall not be deemed an advance payment of Rent, nor a measure of damages for any default by Tenant under this Lease, nor shall the Security Deposit be a bar or a defense to any action that Landlord may commence against Tenant. In the event of any default by Tenant hereunder, Landlord shall have the right, but shall not be obligated, to apply or retain all or any portion of the Security Deposit in payment of Tenant's obligations hereunder, but any such application or retention shall not have the effect of curing any such default. Landlord shall not be obligated to hold the Security Deposit as a separate fund, but may commingle the same with its other funds. Upon expiration of the Term hereof, the Security Deposit (or the balance thereof remaining after payment out of the same or deductions therefrom as provided above) shall be returned to Tenant no later than sixty (60) days following such expiration. No interest shall be payable with respect to the Security Deposit. Landlord or any owner of the Building may transfer or assign the Security Deposit to any new owner of the Building or to any assignee or transferee of this Lease or may credit the Security Deposit against the purchase price of the Building and upon such transfer or credit all liability of the transferor or assignor of such security shall cease and come to an end. No Mortgagee (as hereinafter defined) or person or entity who acquires legal or beneficial title to the Building from such Mortgagee shall be liable for the return of the Security Deposit unless such funds are actually received by such Mortgagee or purchaser.

ARTICLE 4 - RENT; OPERATING EXPENSES; TAXES

4.01 **Payment of Rent**. Tenant shall pay to Landlord's Management Agent, or such other person or entity or at such other place as Landlord may from time to time direct in writing, all amounts due Landlord from Tenant hereunder, including, without limitation, Base Rent, Expense Adjustment and Tax Adjustment (all amounts due hereunder being referred to collectively as "Rent"). Except as specifically provided in this Lease, Rent shall be paid without abatement, deduction or set off of any kind, it being the intention of the parties that, to the full extent permitted by law, Tenant's covenant to pay Rent shall be independent of all other covenants contained in this Lease, including Tenant's continued occupancy of the Premises. Tenant's obligation hereunder to pay Rent accruing during the Term (whether or not the amount thereof is determined or determinable as of the date of termination or expiration of this Lease) shall survive the termination of this Lease or the surrender of possession of the Premises.

4.02 **Payment of Base Rent**. Base Rent shall be payable monthly, in advance, on the first day of each calendar month during the Term. If the Term commences on a day other than the first day of a calendar month, then

Base Rent for such month will be prorated on a per diem basis based on a thirty (30) day month and the excess of the installment of Base Rent paid concurrently with the execution of this Lease by Tenant over such prorated amount for the first calendar month of the Term shall be applied against Base Rent for the first full calendar month of the Term.

4.03 **Operating Expense Inclusions**. "Operating Expenses" shall mean and include all amounts, expenses and costs of whatever nature that Landlord incurs or pays because of or in connection with the ownership, security, insurance, control, operation, administration, repair, management, replacement or maintenance of the Building, all related improvements thereto or thereon and all machinery, equipment, landscaping, fixtures and other facilities, including personal property, as may now or hereafter exist in or on the Building. Assessments required under any declarations, easements or similar shared maintenance and operating agreements shall be included in Operating Expenses. Operating Expenses shall be reasonably determined by Landlord substantially in accordance with sound accounting principles consistently applied and shall include, but shall not be limited to, the following:

(1) Wages, salaries, fees, related taxes, insurance costs, benefits (including amounts payable under medical, pension and welfare plans and any amounts payable under collective bargaining agreements) and reimbursement of expenses of and relating to all personnel engaged in operating, repairing, managing and maintaining the Building;

(2) All supplies and materials, including sales tax imposed in connection with the purchase thereof;

(3) Legal and accounting fees and expenses (except for legal fees incurred in connection with the negotiation or the collection of amounts due under leases);

(4) Cost of all utilities for the Building, including, without limitation, water, sewer, power, fuel, heating, lighting, air conditioning and ventilating, as well as the cost of changing utility providers;

(5) Fees and other charges payable under or in respect of all maintenance, repair, janitorial, security and other service agreements for or pertaining to the Building;

(6) Cost of all insurance, including deductibles, relating to the Building, or the ownership, its occupancy or operations thereof and the Property;

(7) Cost of repairs and maintenance of the Building, excluding only such costs which are paid by the proceeds of insurance, by Tenant or by other third parties (other than payment by Tenant or other tenants of the Building of Expense Adjustment or similar reimbursement of Building costs and expenses);

(8) Amortization of the cost (plus interest at the then current market rate on the unamortized portion of such cost from time to time) of capital repairs, replacements and improvements, including, without limitation, those that are for the purpose of reducing costs includible in the definition of Operating Expenses or that may be required by governmental authority, including but not limited to, pursuant to the Americans with Disabilities Act. All such costs shall be amortized over the reasonable useful life of the capital investment items, with the reasonable useful life and amortization schedule being determined in accordance with sound management accounting principles;

(9) Commercially reasonable management fees and reimbursed expenses of Landlord's Management Agent and administrative expenses not borne by Landlord's Management Agent; and

(10) Fees and charges under any declaration of covenants, easements or restrictions affecting the Building.

4.04 **Operating Expense Exclusions**. Notwithstanding the provisions of Section 4.03 above, Operating Expenses shall not include:

(1) Principal or interest payments with respect to mortgages against the Building;

(2) Ground lease payments or any other payments under any superior lease;

(3) Depreciation and amortizations, except as provided herein;

(4) Capital costs, except (i) new capital improvements to the extent the same are (a) expected to reduce the normal operating costs (including, without limitation, utility costs) of the Building, (b) for the purpose of complying with any law, rule or order (or amendment thereto) for which compliance was not required as of the date of this Lease, or (c) for life/safety reasons, (ii) capital repairs, and (iii) capital replacements (all allowable costs that are capital in nature shall be amortized using a commercially reasonable interest rate over the time period reasonably estimated by Landlord to recover the costs thereof, taking into consideration the anticipated cost savings, as

determined by Landlord using its good faith, commercially reasonable judgment); notwithstanding the foregoing, the cost to replace (x) the roof of the Building, (y) the foundation and structural elements of the Building, and (z) the parking surface at the parking facilities associated with the Building are specifically excluded from Operating Expenses.

(5) Charges for special items or services billed separately to (and in addition to Expense Adjustment Statements) and paid by tenants of the Building;

(6) Costs of any items to the extent Landlord receives reimbursement from insurance proceeds from Landlord's or Tenant's insurance carriers or from a third party;

(7) The cost of providing any service directly to and paid directly by any tenant (other than through Operating Expense pass through provisions), and the cost of services provided selectively to one or more tenants of the Building (other than Tenant) without reimbursement;

(8) Marketing costs, including leasing commissions, attorneys' fees (in connection with the negotiation and preparation of letters, deal memos, letters of intent, leases, subleases and/or assignments), space planning costs, and other costs and expenses incurred in connection with lease, sublease and/or assignment negotiations and transactions with present or prospective tenants or other occupants of the Building;

(9) Costs, including permit, license and inspection costs, incurred with respect to the installation of tenant improvements made for new tenants in the Building, or incurred in renovating or otherwise improving, modifying, decorating, painting or redecorating vacant space for occupancy by tenants or other occupants of the Building;

(10) Costs associated with the operation of the business of the ownership or entity which constitutes "Landlord", as the same are distinguished from the costs of operating the Building including, but not limited to, costs of defending any lawsuits with any mortgagee, legal fees incurred in the negotiation and enforcement of tenant leases and costs of selling, syndicating, financing, mortgaging or hypothecating any of Landlord's interest in the Building;

(11) The wages of any employee above the grade of building manager;

(12) The cost of services provided by Landlord's affiliates to the extent that such costs would exceed the costs of such services rendered by unaffiliated third parties on a competitive basis;

(13) Fines, penalties and interest incurred as a result of Landlord's negligence or willful misconduct;

(14) Any bad debt loss, rent loss, or reserves for bad debts or rent loss;

(15) Landlord's cost of electricity and other services which it has sold to tenants and for which Landlord has been reimbursed; or

(16) any cost or expense related to removal, cleaning, abatement or remediation of Hazardous Materials in or about the Building, including, without limitation, asbestos.

4.05 **Gross Up of Operating Expenses**. If at any time the Building is not fully occupied or Landlord is not supplying services to all rentable areas of the Building during an entire calendar year, then Landlord may adjust actual Operating Expenses to Landlord's estimate of that amount, which would have been paid or incurred by Landlord as Operating Expenses had the Building been 95% occupied or serviced, and the Operating Expenses as so adjusted shall be deemed to be the actual Operating Expenses for such calendar year, provided that such calculation shall not result in Landlord being paid more than the actual costs relating to the same. If the Building is not fully occupied or Landlord is not supplying services to all rentable areas of the Building during the entire Base Expense Year, then Landlord shall adjust actual Operating Expenses to Landlord's estimate of that amount, which would have been paid or incurred by Landlord as Operating Expenses had the Building been 95% occupied or serviced, and the Operating Expenses for the Expense Base Year as so adjusted shall be deemed to be the actual Operating Expenses for such calendar year.

If Landlord does not furnish during any Adjustment Year any particular work or service (the cost of which, if performed by Landlord, would constitute an Operating Expense) to a tenant which has undertaken to perform such work or service in lieu of the performance thereof by Landlord, then Operating Expenses shall be deemed to be increased by an amount equal to the additional expense which would reasonably have been incurred during such Adjustment Year by Landlord if it had, at its cost, furnished such work or service to such tenant. The provisions of the preceding sentences will apply only to those Operating Expenses that either vary with occupancy or by reason of

one or more tenants not receiving goods or services the cost of which constitutes all or part of such Operating Expenses.

4.06 **Taxes**. "Taxes" shall mean and include all federal, state and local government taxes, assessments and charges of any kind or nature, whether general, special, ordinary or extraordinary, paid by Landlord in a calendar year with respect to the Building; provided, real estate taxes and special assessments (except as provided below) shall be included in Taxes for a calendar year only to the extent such taxes and assessments are paid during such calendar year, regardless of when assessed. In addition, "Taxes" shall include, without limitation, real estate and transit district taxes and assessments, sales and use taxes (except to the extent included in Operating Expenses), ad valorem taxes, margin taxes, personal property taxes, any lease or lease transaction tax, taxes on personal property, and rental income taxes, as well as assessments and charges in lieu of, substituted for, or in addition to, any or all of the foregoing taxes, assessments and charges. Taxes shall also include any payments due and owing by Landlord to any business improvement district ("BID") organization which has jurisdiction over any area which includes the Building. Notwithstanding any provision of this Section to the contrary, Taxes shall not include any federal, state or local government income or franchise or rental taxes, capital stock, inheritance or estate taxes, except to the extent such taxes are in lieu of or a substitute for any of the taxes, assessments and charges previously described in this Section. "Taxes" shall also include the amount of all fees, costs and expenses (including, without limitation, reasonable attorneys' fees and court costs) paid or incurred by Landlord each calendar year in seeking or obtaining any refund or reduction of Taxes or for contesting or protesting any imposition of Taxes, whether or not successful and whether or not attributable to Taxes assessed, paid or incurred in such calendar year. If any special assessment payable in installments is levied against all or any part of the Property, then at Landlord's discretion, Taxes for the calendar year in which such assessment is levied and for each calendar year thereafter shall include only the amount of any installments of such assessment plus interest thereon paid or payable during such calendar year (without regard to any right to pay, or payment of, such assessment in a single payment). If, in the future, any governmental agency which collects Taxes (or any tax substituted in lieu thereof) makes a change in the formula used for determining Taxes (or the formula used to determine any tax substituted in lieu of Taxes) the formula then being used hereunder shall be modified so that the amount determined to be payable by Tenant pursuant to this Section shall parallel the method used to determine the amount payable to the governmental body. Tenant shall pay to Landlord the amount of any penalties or late charges for which Tenant may be responsible pursuant this Section within thirty (30) days after demand therefor by Landlord. If pursuant to any legal requirement, any amount that is included in Taxes may be divided and paid in installments (whether or not interest shall be due thereon) and Landlord elects to pay such amount in such installments (including the interest), then there shall be deemed included in Taxes only the installments of such amount paid during such calendar year. In addition to all Taxes for which Tenant must reimburse Landlord as part of Operating Expenses, Tenant shall pay (either to the taxing authority directly or as a reimbursement to Landlord) when due, all taxes and impositions upon, measured by or reasonably attributable to (i) the cost or value of furniture, fixtures, equipment, or other personal property or improvements located within the Premises, (ii) the value of leasehold improvement to the Premises, (iii) the use or occupancy of the Premises, (iv) the operation of Tenant's business, or (v) Tenant's income, revenues, or employees.

Tenant shall be solely liable for any taxes on Rent, paid parking space(s), and/or any other amounts payable by Tenant under this Lease. It is agreed that Tenant shall be responsible for ad valorem taxes on its personal property and on the value of the leasehold improvements in the Premises to the extent that the same exceed the Tenant improvement allowance (and if the taxing authorities do not separately assess Tenant's leasehold improvements, Landlord may make a reasonable allocation of the ad valorem taxes allocated to the Building to give effect to this sentence). In the case of special taxes and assessments which may be payable in installments, only the amount of each installment accruing during a calendar year shall be included in the Operating Expenses for such year.

4.07 **Adjustment Year; Expense Adjustment; Tax Adjustment**. "Adjustment Year" shall mean each calendar year or part thereof during the Term. In addition to Base Rent, Tenant shall pay with respect to each Adjustment Year (i) an amount equal to Tenant's Share of Operating Expenses for the Adjustment Year as reasonably estimated by Landlord in excess of the Expense Base Year ("Expense Adjustment") and (ii) an amount equal to Tenant's Share of Taxes for the Adjustment Year as reasonably estimated by Landlord in excess of the Tax Base Year ("Tax Adjustment"). As to any Adjustment Year during the Term which does not begin on January 1st or does not

end on December 31st, Expense Adjustment and Tax Adjustment (hereinafter collectively, "Adjustments") with respect to such Adjustment Year shall be prorated on a per diem basis.

4.08 **Payment of Adjustments**. Adjustments with respect to each Adjustment Year shall be paid in monthly installments in advance on the first day of each calendar month during such Adjustment Year. If Landlord does not deliver a notice of the amount of such estimated Adjustments as most recently communicated by Landlord to Tenant prior to the commencement of any Adjustment Year, Tenant shall continue to pay estimated Adjustments. If, during any Adjustment Year, Landlord reasonably determines that Taxes or Operating Expenses for such Adjustment Year have increased or will increase, Landlord may deliver to Tenant an updated estimate of Adjustments for such Adjustment Year. In addition, Tenant shall pay to Landlord within thirty (30) days after receipt of any such estimate of Adjustments, the amount, if any, by which the aggregate installments of the Adjustments provided in such estimate of Adjustments exceeds the aggregate installments of the Adjustments paid by Tenant with respect to such prior months. Within one hundred twenty (120) days after the end of each Adjustment Year, or as soon thereafter as practicable, Landlord shall send to Tenant a statement (the "Final Statement") showing (i) the calculation of the Adjustments for such Adjustment Year, (ii) the aggregate amount of the Adjustments previously paid by Tenant for such Adjustment Year, and (iii) the amount, if any, by which the aggregate amount of the installments of Adjustments paid by Tenant with respect to such Adjustment Year exceeds or is less than the actual Adjustments for such Adjustment Year Tenant shall pay the amount of any deficiency to Landlord within thirty (30) days after the date of such statement. Any excess shall, at Landlord's option, either be credited against payments past or next due under this Lease or refunded by Landlord, provided Tenant is not then in default under this Lease.

4.09 **Tenant's Review of Landlord's Books and Records**. So long as Tenant is not then in default of any term or condition of this Lease beyond any applicable notice and cure period, Tenant shall have the right to conduct a Tenant's Review, as hereinafter defined, at Tenant's sole cost and expense (including, without limitation, photocopy and delivery charges), upon thirty (30) days' prior written notice to Landlord. "Tenant's Review" shall mean a review of Landlord's books and records relating to (and only relating to) Operating Expenses payable by Tenant hereunder for the most recently completed calendar year as reflected on the Final Statement. Tenant's Review must be performed by either an employee of Tenant or by a Certified Public Accountant ("CPA") reasonably satisfactory to Landlord. Tenant must elect to perform a Tenant's Review by written notice of such election received by Landlord within one hundred eighty (180) days following delivery to Tenant of the Final Statement for the most recently completed calendar year. In the event that Tenant fails to make such election in the required time and manner required or fails to diligently perform such Tenant's Review to completion, then Landlord's calculation of Operating Expenses shall be final and binding on Tenant. Tenant hereby acknowledges and agrees that even if it has elected to conduct a Tenant's Review, Tenant shall nonetheless pay all Operating Expense payments to Landlord, subject to readjustment. Tenant further acknowledges that Landlord's books and records relating to the Building may not be copied in any manner, are confidential, and may only be reviewed at a location reasonably designated by Landlord; but Landlord will make such records available within the metropolitan area in which the Premises is located. Tenant shall provide to Landlord a copy of Tenant's Review as soon as reasonably possible after the date of such Review. If Tenant's Review reflects a reimbursement owing to Tenant by Landlord, and if Landlord disagrees with Tenant's Review, then Tenant and Landlord shall jointly appoint an auditor to conduct a review ("Independent Review"), which Independent Review shall be deemed binding and conclusive on both Landlord and Tenant. If the Independent Review results in a reimbursement owing to Tenant equal to five percent (5%) or more of the amounts reflected in the Final Statement, the costs of the Independent Review shall be paid by Landlord, but otherwise Tenant shall pay the costs of Tenant's Review and the Independent Review. Under no circumstances shall Tenant conduct a review of Landlord's books and records whereby the auditor operates on a contingency fee or similar payment arrangement. Any such reviewer must sign a commercially reasonable non-disclosure, non-solicitation, and confidentiality agreement. Tenant agrees to use reasonable efforts to keep the results of its audit confidential, except for such disclosures to Tenant's agents, employees, attorneys, accountants, financial advisors, officers, directors, members and contractors, and except for such disclosures as may be required by law, compelled by judicial process or which may be necessary to enforce the terms and provisions of this Lease.

ARTICLE 5 — ELECTRICITY

5.01 **Electricity Charge**. Electricity used by Tenant in the Premises shall be paid for by Tenant by a separate charge payable by Tenant to Landlord as set forth in Section 1.11 above.

5.02 **Load**. Landlord shall supply a minimum of five (5) watts demand load per rentable square foot of the Premises, exclusive of Building standard heating, ventilation and air conditioning ("HVAC") (supplemental HVAC is deducted from the 5 watts of demand load). Landlord shall measure Tenant's electrical usage by submeter or check-meter, the installation of which (if not currently serving the Premises) shall be at Landlord's sole cost and expense.

5.03 **Excess Electrical Usage.** Tenant's use of electrical service shall not exceed, either in voltage or rated capacity, that which Landlord reasonably deems to be standard for the Building. If Tenant requests permission to consume excess electrical service, Landlord may refuse to consent if such excess electrical service is not available at the Building or may condition consent upon conditions that Landlord reasonably elects (including, without limitation, the installation of utility service upgrades, to the extent permitted by Law, the installation and maintenance costs of which shall be paid for by Tenant). Landlord shall have the right to separately meter electrical usage for the Premises and to measure electrical usage by survey or other commonly accepted methods.

5.04 **Provider.** Landlord shall have the exclusive right to select any company providing electrical service to the Building and Premises, to aggregate the electrical service for the Building and Premises with other buildings, to purchase electricity for the Building and Premises through a broker and/or buyers group and to change the providers and/or manner of purchasing electricity. Landlord shall be entitled to receive a reasonable fee (if permitted by Law) in a particular calendar year for the services provided by Landlord for the selection of utility companies and the negotiation and administration of contracts for the generation of electricity.

5.05 **New Provider.** If Landlord permits Tenant to purchase electrical power for the Premises from a provider other than a company designated by Landlord, the provider shall be considered to be a contractor of Tenant and Tenant shall indemnify and hold Landlord harmless from such provider's acts and omissions while in the Building or Premises in accordance with the terms and conditions of Article 11. In addition, at the request of Landlord, Tenant shall allow Landlord to purchase electricity from Tenant's provider at Tenant's rate or at a lower rate if a lower rate can be negotiated by the aggregation of Landlord's and Tenant's requirements for electricity power.

ARTICLE 6 — CONDITION OF THE PREMISES AND BUILDING

6.01 **Care of the Premises**. Subject to Landlord's repair obligations set forth in Section 6.02, below, and subject to Landlord's services expressly provided herein, below, Tenant shall, at its own expense, keep the Premises clean and safe and in as good repair and condition as when all of the work described in the Work Letter was completed, ordinary wear and tear and casualty excepted (or as to subsequent Work, as and when such Work was completed, ordinary wear and tear and casualty excepted) and shall promptly and adequately repair all damage to the Premises and the Building caused by Tenant or any of its employees, agents, guests or invitees, including replacing or repairing all damaged or broken glass, fixtures and appurtenances resulting from any such damage, under the supervision and with the approval of Landlord. If Tenant does not promptly and adequately make such repairs or replacements, Landlord may, but need not, make such repairs and replacements and Tenant shall pay Landlord the cost thereof on demand. Tenant, at its sole expense, shall comply with all laws, orders and regulations of federal, state, county and municipal authorities and with any directive of any public officer or officers pursuant to law which shall impose any violation, order or duty upon Landlord or Tenant with respect to the Premises or the use or occupation thereof. Tenant shall not do or permit to be done any act or thing in, on or about the Premises or store anything therein which (i) will in any way conflict with any law, statute, ordinance or governmental rule or regulation now in force or which may hereafter be enacted or promulgated, (ii) is not appropriate to the permitted use of the Premises, (iii) will in any way increase the existing rate of, or adversely affect, or cause a cancellation of, any fire or other insurance policies covering the Building or any of its contents, or (iv) constitutes a nuisance or will disturb or interfere with the quiet enjoyment by other tenants of their premises.

6.02 **Landlord's Services**. Landlord shall furnish (the cost of which are subject to inclusion as an Operating Expense):

(a) Cooled or heated air in season to provide a temperature condition required, in Landlord's reasonable judgment, for comfortable occupancy of the common areas (Tenant maintains control of the temperature within the Premises) under normal business operations and in the absence of the use of equipment which affects the temperature or humidity which would otherwise be maintained in the Premises, weekdays from 8:00 a.m. to 6:00 p.m. and weekends 8:00 a.m. to 1:00 p.m., exclusive of holidays recognized by the federal or state government (unless chosen to be open by Landlord). If the use of heat generating equipment in the Premises affects the temperatures otherwise maintained by the air conditioning system for normal business operations, and thereby requires, in the reasonable judgment of Landlord, the modification of the air conditioning or ventilation systems (including installation of supplementary air conditioning units in the Premises) upon prior notice to Tenant Landlord may elect to perform such modification, and the reasonable cost thereof shall be paid by Tenant to Landlord at the time of completion of such modification, or Landlord may elect to require Tenant to perform such modification, at Tenant's sole cost and expense. Any increased expense in maintaining or operating the system resulting, in Landlord's reasonable opinion, from such modification shall be paid by Tenant. In addition, Tenant shall, at Tenant's expense, perform all maintenance on any supplementary air conditioning units installed in accordance with this Section unless, in the exercise of its right hereby expressly reserved, Landlord elects to perform part or all of such maintenance at Tenant's expense. Tenant agrees to keep and cause to be kept closed all windows in the Premises and at all times to cooperate fully with Landlord in the operation of said system and to abide by all reasonable regulations and requirements which Landlord may prescribe to permit the proper functioning and protection of said heating, ventilation and air conditioning systems. Tenant acknowledges that heat pumps for the HVAC service are periodically shut down for service, which service is typically performed over weekends.

(b) Washroom facilities, not within the Premises (unless Tenant leases an entire floor), for use by Tenant in common with other tenants in the Building.

(c) Janitor service in and about the Premises and common areas as customarily provided in similar Class A office buildings in the applicable submarket, Saturdays, Sundays and Holidays excepted.

(d) Passenger elevator service in common with other tenants and occupants. During non-Building standard hours, Landlord may limit or restrict elevator access for security and energy conservation; however, at such times shall provide reasonable passenger elevator services so that Tenant may access the Premises. Landlord shall provide limited freight elevator service on a first come first served basis, for which there is an additional charge and which usage must be coordinated with the property management office of the Building.

(e) General maintenance, repair and replacements of all applicable common areas of the Building, including, without limitation, common fire detection, common sprinkler, common life safety, common electrical, common security, common plumbing, landscaped areas, the roof, parking areas, structural elements of the Building including foundation, exterior and load-bearing walls, structural floor slabs, common mechanical, common HVAC, sewer, elevators and tenant directories, but however specifically excluding those items or systems located within the Premises, or directly serving the Premises.

6.03 **Energy Conservation**. Notwithstanding anything to the contrary in this Article or elsewhere in this Lease, Landlord shall have the right to institute such policies, programs and measures as may be necessary or desirable, in Landlord's reasonable discretion, for the conservation and/or preservation of energy or energy related services, or as may be required to comply with any applicable codes, rules and regulations, whether mandatory or voluntary.

6.04 **Additional Services; Overtime HVAC**. Landlord shall in no event be obligated to furnish any services or utilities, other than those specified in this Lease. If Landlord elects to furnish services or utilities requested by Tenant in addition to those specified in this Lease (including utility services at times other than those specified), Tenant shall pay to Landlord, Landlord's then reasonable rates for such services and utilities (the current rate for after hours HVAC service is currently Seventy-Five Dollars ($75.00) per hour per floor for each hour of use with a minimum charge for four (4) hours of usage) within thirty (30) days after receipt of Landlord's invoices therefor. If

Tenant shall fail to make any such payment, Landlord may, with ten (10) days' written notice to Tenant, and in addition to Landlord's other remedies under this Lease, discontinue any or all of the additional services. Except as otherwise provided herein, no failure to furnish or discontinuance of any service pursuant to this Article shall result in any liability of Landlord to Tenant or be deemed to be a constructive eviction or a disturbance of Tenant's use of the Premises.

6.05 **Interruption of Services.** Except as otherwise specifically provided herein, no failure to furnish or discontinuance of any service pursuant to this Article shall result in any liability of Landlord to Tenant or be deemed to be a constructive eviction or a disturbance of Tenant's use of the Premises. Without limitation to the generality of the foregoing, Tenant agrees that Landlord shall not be liable in damages, by abatement of Rent or otherwise, for failure to furnish or delay in furnishing any service, or for any diminution in the quality or quantity thereof, when such failure or delay or diminution is occasioned, in whole or in part, by repairs, renewals, or improvements, by any strike, lockout or other labor trouble, by inability to secure electricity, gas or other fuel, or water, at the Building after reasonable effort so to do, by any accident or casualty whatsoever by act or default of Tenant or other parties, or by any cause beyond Landlord's reasonable control. Such failures or delays or diminution shall never be deemed to constitute an eviction or disturbance of Tenant's use and possession of the Premises or relieve Tenant from paying Rent or performing any of its obligations under this Lease.

Notwithstanding anything to the contrary contained in this paragraph, if: (i) Landlord ceases to furnish any service in the Building for a period in excess of five (5) consecutive business days after Tenant provides written notice to Landlord of such cessation (the "Interruption Notice"); (ii) such cessation does not arise as a result of an act or omission of Tenant; (iii) such cessation is not caused by a casualty or condemnation (as more fully set forth below); (iv) the restoration of such service is reasonably within the control of Landlord; and (v) as a result of such cessation, the Premises or a material portion thereof, is rendered untenantable and Tenant in fact ceases to use the Premises, or material portion thereof, then Tenant, as its sole remedy, shall be entitled to receive an abatement of Rent payable hereunder during the period beginning on the sixth (6th) consecutive business day of such cessation and ending on the day when the service in question has been restored. In the event the entire Premises has not been rendered untenantable by the cessation in service, the amount of abatement that Tenant is entitled to receive shall be prorated based upon the percentage of the Premises so rendered untenantable and not used by Tenant.

ARTICLE 7 - LEASEHOLD IMPROVEMENTS; ALTERATIONS; SIGNAGE

7.01 **Alterations**. Tenant shall not permit any alteration, improvement, addition or installation in or to the Premises (all of which is collectively referred to as "Work"), including installation of telephone, computer or internal sound or paging systems or other similar systems, or the performance of any decorating, painting and other similar work in the Premises without Landlord's prior written consent, which shall not be unreasonably withheld, conditioned or delayed. In the event Landlord consents to any Work, Work shall be performed by contractors and subcontractors that meet the prior written approval of Landlord, which approval shall not be unreasonably withheld, conditioned or delayed. Notwithstanding the foregoing, Landlord's consent shall not be required for any alteration to the interior of the Premises that complies with the following requirements (each, a "Minor Alteration"): (a) is non-structural in nature; (b) does not affect the roof or any area outside of the Premises; (c) does not materially affect the electrical, plumbing, HVAC or mechanical systems in the Building or servicing the Premises, or the sprinkler or other life safety system; (d) costs less than Twenty-Five Thousand Dollars ($25,000) for each such alteration project in the aggregate; (e) Landlord receives five (5) business days' prior written notice (and entry of workers is coordinated with management); (f) Tenant is not then in default; (g) Landlord's insurance requirements are satisfied; and (h) Landlord receives "as built" plans, if applicable.

All Work shall comply with Landlord's reasonable requirements and Building standards, as well as any and all applicable municipal building codes and other applicable laws. Tenant shall pay the cost of preparation of the plans for the Work; all permit fees and the fees of said contractors and subcontractors. Tenant shall pay for the actual cost incurred by Landlord for the services of all third parties necessitated by Tenant's Work (including, without limitation, construction management fees and architectural and engineering costs), as well as any Building-standard charges for the use of freight elevators, loading areas, common areas, after-hours security, and other above Building-standard services. Additionally, except with respect to the Work described in the Work Letter, and any Work which

does not require Landlord's consent, and provided that Landlord is managing the Work, Tenant shall pay to Landlord a construction management fee equal to a percentage of all so called "hard" construction costs incurred for such Work based on the following schedule:

Cost of Work	Percentage Fee
$0 - $500,000	5%
$500,001 - $750,000	4%
$750,001 and above	3%
Projects that do not require consent	0%

Before commencement of any Work or delivery of any materials into the Premises or the Building, Tenant shall furnish to Landlord, for its prior written approval, architectural plans and specifications certified by a licensed architect or engineer reasonably acceptable to Landlord, and such other documentation as Landlord shall reasonably request. Tenant agrees to hold Landlord, its beneficiaries and their respective agents, partners, officers, servants and employees forever harmless against all claims and liabilities of every kind, nature and description which may arise out of or in any way be connected with any such Work. At the request of Landlord, Tenant will deliver a written indemnity against claims or damages to tenants or occupants of any other premises affected by such Work. Tenant shall pay Landlord's reasonable costs of reviewing plans and materials submitted to Landlord for approval. Tenant shall pay the cost of all such Work and the cost of decorating and altering the Premises and the Building occasioned by any such Work. Landlord shall have the right to require Tenant's contractors to evidence workers compensation, general liability and other insurance coverage, as reasonably required by Landlord. Prior to the commencement of any work in or about the Premises (other than Minor Alterations as provided above), Tenant shall provide to Landlord a minimum of fifteen (15) days' prior written notice, and shall endeavor to take such other actions as are required to avail itself and Landlord of any statutory protections offered under applicable laws. All alterations, improvements, additions and installations to or in the Premises at Landlord's election shall become part of the Premises at the time of installation.

7.02 **Tenant's Work**. In the event that Landlord permits Tenant to hire its own contractors for the performance of any Work, then in addition to the provisions of Section 7.01, the following shall apply: (i) prior to the commencement of the Work or the delivery of any materials to the Building, Tenant shall submit to Landlord for Landlord's reasonable approval, the names and addresses of all contractors, contracts, necessary permits and licenses, certificates of insurance (including, without limitation, Worker's Compensation, commercial general liability and adequacy of design insurance) and instruments of indemnification and waivers of lien against any and all claims, costs, expenses, damages and liabilities which may arise in connection with the Work, all in such form and amount as shall be reasonably satisfactory to Landlord; (ii) all such Work shall be done only by qualified and/or licensed (as applicable) union contractors or mechanics approved by Landlord (which approval shall not be unreasonably withheld) and at such time and in such manner as Landlord may from time to time reasonably designate; (iii) upon completion of any Work, Tenant shall furnish Landlord with as-built plans (if a building permit was needed in connection with such Work), contractors' affidavits, full and final waivers of lien, receipted bills covering all labor and materials expended and used in connection with such Work, and (iv) all such Work shall comply with all insurance requirements, all laws, ordinances, rules and regulations of all governmental authorities, and all collective bargaining agreements applicable to the Building, and shall be done in a good and workmanlike manner and with the use of good grades of new materials. Without limitation to the generality of the foregoing, under no circumstances shall Tenant be allowed to access any risers, the roof, or any life-safety systems without the express written consent of Landlord, and Landlord may require that Tenant use Landlord's preferred contractor provided the same is at market rates. At all times during the term of this Lease, Tenant shall ensure that all wiring and cabling that it installs within the Premises or Building complies with all provisions of local fire and safety codes, as well as with the National Electric Code. Further, upon the expiration or sooner termination of the Term, Tenant shall remove all wiring and cabling within the Premises and the Building (including the plenums, risers and rooftop) placed there by or at the direction of Tenant, unless excused in writing by Landlord. Without limitation to the remedies available to Landlord in the event that Tenant fails to comply with Tenant's cabling and wiring removal and disposal obligation, Tenant shall forfeit such sums from the Security Deposit (or otherwise pay to Landlord) an amount that Landlord reasonably believes necessary for the removal and disposal of any such wires and cabling.

7.03 **No Mechanic's Liens**. Without limitation of the provisions of Section 7.01, Tenant agrees not to suffer or permit any lien of any mechanic or materialman to be placed or filed against the Premises or the Building. In case any such lien shall be filed, Tenant shall immediately satisfy and release such lien of record, or, at Tenant's sole cost and expense, provide a lien and completion bond in an amount equal to one and one-half times the estimated cost of such improvements, to insure Landlord against any liability for mechanic's liens and to insure completion of the work. If Tenant shall fail to have such lien immediately satisfied and released of record, Landlord may, on behalf of Tenant, without being responsible for making any investigation as to the validity of such lien and without limiting or affecting any other remedies Landlord may have, pay the same and Tenant shall pay Landlord on demand the amount so paid by Landlord.

7.04 **Removal of Tenant's Property**. Subject to the rules and regulations, Tenant, at any time Tenant is not in default hereunder, may remove from the Premises its movable trade fixtures and personal property. Tenant shall repair any damage to the Premises caused by such removal, failing which Landlord may remove the same and repair the Premises and Tenant shall pay the reasonable cost thereof to Landlord on demand.

7.05 **Signage.** Landlord shall provide Building standard signage on the main directory located in the Building lobby and at the entrance to the Premises. Subsequent changes shall be at the sole expense of Tenant and subject to Landlord's review and approval, not to be unreasonably withheld.

ARTICLE 8 - SURRENDER AND HOLDING OVER

8.01 **Surrender**. At the termination of this Lease, by lapse of time or otherwise, Tenant shall surrender possession of the Premises to Landlord and deliver all keys to the Premises and all locks therein to Landlord and make known to Landlord the combination of all combination locks in the Premises, and shall, subject to Articles 9 and 10, return the Premises and all equipment and fixtures of Landlord therein to Landlord in "broom clean" condition and in as good condition as when Tenant originally took possession, ordinary wear and tear and casualty excepted, and with all furniture, personal property, and low voltage cabling (such as computer, telephone and data cabling) removed. If Tenant fails to surrender possession of the Premises in the foregoing condition, Landlord may restore the Premises and such equipment and fixtures to such condition and Tenant shall pay the reasonable cost thereof to Landlord on demand. With respect to any furniture, fixtures, equipment or other personal property remaining on the Premises following surrender (or termination) of possession of the Premises, Landlord may elect to: (i) retain such property, in which event this Lease shall act as a bill of sale therefor, (ii) discard any such property (including, without limitation, files, computers and confidential information and documentation) in any manner Landlord deems appropriate, including, without limitation, document destruction; and/or (iii) leave such property within the Premises and treat Tenant as "holding over" as more fully set forth below. Landlord is not responsible to maintain the confidentiality of any records, reports, information, data, or materials remaining in the Premises after Tenant has surrendered or been evicted from the Premises.

8.02 **Removal of Fixtures**. Upon termination of this Lease or of Tenant's right to possession of the Premises, by lapse of time or otherwise, all installations, additions, partitions, hardware, light fixtures, floor coverings, trade fixtures and improvements, temporary or permanent, whether placed there by Tenant or Landlord, shall be Landlord's property and shall remain upon the Premises, all without compensation, allowance or credit to Tenant; provided, however, that if prior to any such termination or within thirty (30) days thereafter Landlord so directs by notice, Tenant, at Tenant's sole expense, shall promptly remove such of the installations, additions, partitions, hardware, light fixtures, floor coverings, trade fixtures and improvements in or to the Premises by or on behalf of Tenant as are designated in such notice and repair any damage to the Premises caused by such removal, failing which Landlord may remove the same and repair the Premises, and Tenant shall pay the cost thereof to Landlord on demand. Notwithstanding the foregoing, Tenant shall not be required to remove its initial Tenant Improvements.

8.03 **Holding Over**. If Tenant shall, without the written consent of Landlord, hold over and not yield up immediate possession of the Premises after the expiration of the Lease Term, then Landlord may, at its option, serve written notice upon the Tenant that such holding over constitutes any one of the following: (i) creation of a month-to-month tenancy, or (ii) creation of a tenancy at sufferance; in any case, upon the terms and conditions set forth in this Lease except that the monthly Rent (or daily Rent under (ii) above) shall, in addition to all other sums which are to be

paid by the Tenant hereunder, whether or not as Additional Rent, be equal to (A) for the first thirty (30) days of such holding over, one hundred fifty percent (150%) of the sum of the Rent plus Additional Rent owed monthly to Landlord under this Lease immediately prior to such expiration or termination (prorated in the case of (ii) above on the basis of a three hundred sixty-five (365) day year for each day the Tenant remains in possession in the same manner as provided in the Lease for the payment of Rent and Additional Rent), and (B) thereafter, two hundred percent (200%) of the sum of the Rent plus Additional Rent owed monthly to Landlord under this Lease immediately prior to such expiration or termination (prorated in the case of (ii) above on the basis of a three hundred sixty-five (365) day year for each day the Tenant remains in possession in the same manner as provided in the Lease for the payment of Rent and Additional Rent), and if no such notice is served, then a tenancy at sufferance be deemed created. In the case of a holdover which has been consented to by Landlord, unless otherwise agreed to in writing by Landlord and Tenant, Tenant shall give to Landlord thirty (30) days prior written notice of any intention to quit the Premises, and Tenant shall be entitled to thirty (30) days prior written notice to quit the Premises, except in the event of non-payment of Rent or Additional Rent when due or the breach of any other covenant or the existence of a default. Tenant shall be liable to Landlord for all damages which Landlord suffers because of any holding over by Tenant which exceeds thirty (30) days, and Tenant shall indemnify, defend and hold Landlord harmless from and against all claims (including actual and opportunity costs and attorney fees and costs) resulting from Tenant's retention of possession, including any claim from any tenant or prospective tenant against Landlord. The provisions of this section shall not constitute a waiver by Landlord of any right of re-entry as provided herein nor shall receipt of any Rent or Additional Rent or any other apparent affirmance of the tenancy operate as a waiver of Landlord's right to terminate this Lease for a breach of any terms, covenants or obligation contained in this Lease on the Tenant's part to be performed. Additionally, Tenant shall be liable for all consequential damages if Tenant holds over for more than thirty (30) days following Landlord's delivery of a written notice to vacate.

8.04 **Cumulative Rights**. All of Landlord's rights and remedies under this Article shall be cumulative with and in addition to any and all rights and remedies which Landlord may have elsewhere in this Lease, at law or in equity. Any specific remedy provided for in any provision of this Section shall not preclude the concurrent or consecutive exercise of a remedy provided for in any other provision hereof.

8.05 **Survival**. All obligations of Tenant under this Article shall survive the termination of this Lease, by lapse of time or otherwise.

ARTICLE 9 - DAMAGE OR DESTRUCTION

9.01 **Landlord's Rights**. In the event the Premises or the Building, or any portion thereof, is damaged or destroyed by any casualty that is covered by the insurance maintained by Landlord, then Landlord shall rebuild, repair and restore the damaged portion thereof, provided that (i) the amount of insurance proceeds available to Landlord equals or exceeds the cost of such rebuilding, restoration and repair, (ii) such rebuilding, restoration and repair can be completed within one hundred eighty (180) days after the work commences in the opinion of a registered architect or engineer appointed by Landlord, (iii) the damage or destruction has occurred more than twelve (12) months before the expiration of the Term and (iv) such rebuilding, restoration, or repair is then permitted, under applicable governmental laws, rules and regulations, to be done in such a manner as to return the damaged portion thereof to substantially its condition immediately prior to the damage or destruction, including, without limitation, the same net rentable floor area. To the extent that insurance proceeds must be paid to a mortgagee or beneficiary under, or must be applied to reduce any indebtedness secured by, a mortgage or deed of trust encumbering the Premises or Building, such proceeds, for the purposes of this subsection, shall be deemed not available to Landlord unless such mortgagee or beneficiary permits Landlord to use such proceeds for the rebuilding, restoration, and repair of the damaged portion thereof. Notwithstanding the foregoing, Landlord shall have no obligation to repair any damage to, or to replace any of, Tenant's personal property, furnishings, trade fixtures, equipment or other such property or effects of Tenant unless the same is due to Landlord's negligence or intentional misconduct.

In the event the Premises or the Building, or any portion thereof, is damaged or destroyed by any casualty to the extent that Landlord is not obligated, under the preceding paragraph, to rebuild, repair or restore the damaged portion thereof, then Landlord shall within sixty (60) days after such damage or destruction, notify Tenant of its election, at its option, to either (i) rebuild, restore and repair the damaged portions thereof, in which case Landlord's

notice shall specify the time period within which Landlord estimates such repairs or restoration can be completed; or (ii) terminate this Lease effective as of the date the damage or destruction occurred. If Landlord does not give Tenant written notice within sixty (60) days after the damage or destruction occurs of its election to rebuild or restore and repair the damaged portions thereof, Landlord shall be deemed to have elected to terminate this Lease.

9.02 **Tenant's Rights**. If Landlord estimates that the Premises will remain untenantable for in excess of three hundred sixty-five (365) days, then Tenant may elect to terminate this Lease by written notice delivered to Landlord within thirty (30) days following Landlord's delivery to Tenant of the estimated duration that the Premises will remain untenantable.

If Landlord estimated the duration that the Premises would remain untenantable at three hundred sixty-five (365) days or less, and following three hundred sixty-five (365) days' from the date of casualty the Premises remains untenantable, then Tenant may thereafter terminate this Lease upon ten (10) business days' prior written notice to Landlord (and such termination shall be effective unless Landlord delivers the Premises in the required condition within said ten (10) business day period).

If Landlord estimated the duration that the Premises would remain untenantable at more than three hundred sixty-five (365) days (but neither party elected to terminate this Lease), and the Premises remains untenantable for more than thirty (30) days following the estimated completion date (subject to extension for force majeure and delays caused by Tenant), then Tenant may thereafter terminate this Lease upon ten (10) business days' prior written notice to Landlord (and such termination shall be effective unless Landlord delivers the Premises in the required condition within said ten (10) business day period).

If there is a casualty during the last twelve (12) months of the Term (as may be extended), and if due to such casualty Landlord estimates that the Premises shall remain untenantable for in excess of thirty (30) days, then Tenant may elect to terminate this Lease by written notice delivered to Landlord within ten (10) business days following Landlord's delivery to Tenant of the estimated duration that the Premises will remain untenantable.

9.03 **Abatement of Rent**. There shall be an abatement of rent by reason of damage to or destruction of the Premises or the Building, or any portion thereof, to the extent that (i) Landlord receives insurance proceeds for loss of rental income attributable to the Premises and (ii) the floor area of the Premises cannot be reasonably used by Tenant for conduct of its business, in which event the Base Rent shall abate proportionately according to (i) or (ii) above, as appropriate, commencing on the date that the damage to or destruction of the Premises or Building has occurred, and except that, if Landlord or Tenant elects to terminate this Lease as provided above, no obligation shall accrue under this Lease after such termination. Notwithstanding the provisions of this Section, if any such damage is due to the fault or neglect of Tenant, any person claiming through or under Tenant, or any of their employees, suppliers, shippers, servants, customers or invitees, then there shall be no abatement of rent by reason of such damage, unless and until Landlord is reimbursed for all of such abatement pursuant to any rental insurance policy that Landlord may, in its sole discretion, elect to carry. Tenant's right to terminate this Lease in the event of any damage or destruction to the Premises or Building, is governed by the terms of this Section and therefore Tenant hereby expressly waives the provisions of any and all laws, whether now or hereafter in force, and whether created by ordinance, statute, judicial decision, administrative rules or regulations, or otherwise, that would cause this Lease to be terminated, or give Tenant a right to terminate this Lease, upon any damage to or destruction of the Premises or Building that occurs.

9.04 **Waiver**. Tenant waives the provisions of any present or future laws or case decisions regarding damage, destruction, repair or restoration of the Premises and/or Building and agrees that the provisions of this Article shall control to the same effect. Upon completion of such repair or restoration, Tenant shall promptly refixture the Premises substantially to the condition they were in prior to the casualty and shall reopen for business if closed by the casualty.

ARTICLE 10 - EMINENT DOMAIN

10.01 **Condemnation of the Premises**. In the event that the whole or a substantial part of the Premises shall be condemned or taken in any manner for any public or quasi-public use (or sold under threat of such taking),

and as a result thereof, the remainder of the Premises cannot be used for the same purpose as prior to such taking, the Lease shall terminate as of the date possession is taken; provided, however, if Landlord elects to make comparable space in the Building available to Tenant under the same Rent and terms as herein provided, Tenant shall accept such space and this Lease shall then apply to such space.

10.02 **Partial Condemnation of the Premises**. If less than a substantial part of the Premises shall be so condemned or taken (or sold under threat thereof) and after such taking the Premises can be used for the same purposes as prior thereto, the Lease shall cease only as to the part so taken as of the date possession shall be taken by such authority, and Tenant shall pay full Rent up to that date (with appropriate refund by Landlord of such Rent attributable to the part so taken as may have been paid in advance for any period subsequent to the date possession is taken) and thereafter Base Rent and Adjustments shall be equitably adjusted to reflect the reduction in the Premises by reason of such taking, Landlord shall, at its expense, make all necessary repairs or alterations to the Building so as to constitute the remaining Premises a complete architectural unit, provided that Landlord shall not be obligated to undertake any such repairs or alterations if the cost thereof exceeds the award resulting from such taking.

10.03 **Building Condemnation**. If part of the Building shall be so condemned or taken (or sold under threat thereof), or if any adjacent property or street shall be condemned or improved by a public or quasi-public authority in such a manner as to alter the use of any part of the Premises or the Building and, in the opinion of Landlord, the Building or any part thereof should be altered, demolished or restored in such a way as to materially alter the Premises, Landlord may terminate this Lease by notifying Tenant of such termination within sixty (60) days following the taking of possession by such public or quasi-public authority, and this Lease shall expire on the date specified in the notice of termination, which shall be not less than sixty (60) days after the giving of such notice, as fully and completely as if such date were the date hereinbefore set forth as the expiration of the Term, and the Base Rent and Adjustments hereunder shall be apportioned as of such date.

10.04 **Award**. Landlord shall be entitled to receive the entire award, including the damages for the property taken and damages to the remainder, with respect to any condemnation proceedings affecting the Building. Tenant agrees not to make any claim against Landlord or the condemning authority for any portion of such award or compensation, whether attributable to the value of any unexpired portion of the Term, leasehold improvements or otherwise, Tenant irrevocably assigning any and all such claims to Landlord; provided, however, Tenant may make a separate award for relocation costs and business interruption.

ARTICLE 11 - RELEASE, WAIVER AND INDEMNIFICATION

11.01 **Release**. Subject to applicable waivers of subrogation, Tenant releases Landlord, its beneficiaries, mortgagees, stockholders, agents (including, without limitation, management agents), partners, officers, servants and employees, and their respective agents, partners, officers, servants and employees ("Related Parties"), from and waives all claims for damages to person or property sustained by Tenant or by any occupant of the Premises or the Building, or by any other person, resulting directly or indirectly from fire or other casualty, any existing or future condition, defect, matter or thing in the Premises, the Building or any part thereof, or from any equipment or appurtenance therein, or from any accident in or about the Building, or from any act or neglect of any tenant or other occupant of the Building or of any other person, other than Landlord or its agents. If any damage to the Building or any equipment or appurtenance therein, whether belonging to Landlord or to other tenants in the Building, results from any act or neglect of Tenant, its agents, employees, guests or invitees, Tenant shall be liable therefor and Landlord may, at Landlord's option repair such damage, and Tenant shall, upon demand by Landlord, reimburse Landlord the total cost of such repairs and damages to the Building. Landlord shall not be liable (i) for any damage caused by other tenants or persons in or about the Building or Premises, or (ii) for any loss or damage to person or property which is either covered by insurance or which Tenant is required to insure under this Lease. Tenant shall look to its property damage or business interruption insurance policies, and not to Landlord for any loss incurred as a result of damage to its property or interruption of its business.

11.02 **Tenant's Indemnification**. To the extent not expressly prohibited by law, Tenant agrees to hold harmless and indemnify Landlord and Landlord's Related Parties from and against claims and liabilities, including reasonable attorneys' fees, (i) for injuries to all persons and damage to or theft or misappropriation or loss of property

occurring in or about the Premises arising from Tenant's occupancy of the Premises or the conduct of its business, or from activity, work, or thing done, permitted or suffered by Tenant, its employees, agents, guests or invitees in or about the Premises and the Building, or (ii) from any breach or default on the part of Tenant in the performance of any covenant or agreement on the part of Tenant to be performed pursuant to the terms of this Lease, or (iii) due to any other act or omission of Tenant, its agents, employees, guests or invitees, or (iv) if any person, not a party to this Lease, shall institute an action against Tenant in which Landlord or Landlord's Related Parties shall be made a party. Landlord may, at its option, repair such damage or replace such loss, and Tenant shall upon demand by Landlord reimburse Landlord for all costs of such repairs, replacement and damages in excess of amounts, if any, paid to Landlord under insurance covering such damages. In the event any action or proceeding is brought against Landlord or Landlord's Related Parties by reason of any such claims, then, upon notice from Landlord, Tenant covenants to defend such action or proceeding by counsel reasonably satisfactory to Landlord.

11.03 **Landlord's Indemnification**. Subject to applicable waivers of subrogation, releases, and limitations on liability, Landlord shall defend and hold Tenant and its officers, directors, partners and employees harmless from and against all liabilities, losses, demands, actions, expenses or claims, including reasonable attorneys' fees and court costs but excluding consequential damages, for injury to or death of any person or for damage to any property to the extent such are determined to be caused by the gross negligence or willful misconduct of Landlord, its agents, employees, or contractors in or about the Premises or Building. None of the events or conditions set forth in this paragraph shall be deemed a constructive or actual eviction or entitle Tenant to any abatement or reduction of Rent.

11.04 **Limitation on Landlord's Liability**. Tenant agrees that in the event Tenant shall have any claim against Landlord or Landlord's Related Parties under this Lease arising out of the subject matter of this Lease, Tenant's sole recourse shall be against Landlord's interest in the Building, for the satisfaction of any claim, judgment or decree requiring the payment of money by Landlord or Landlord's Related Parties as a result of a breach hereof or otherwise in connection with this Lease, and no other property or assets of Landlord, Landlord's Related Parties or their successors or assigns, shall be subject to the levy, execution or other enforcement procedure for the satisfaction of any such claim, judgment, injunction or decree. Under no circumstances shall Landlord be liable for, and Tenant hereby waives, consequential, punitive, special, or exemplary damages, or any damages similar thereto.

ARTICLE 12 - INSURANCE; WAIVER OF SUBROGATION

12.01 **Tenant's Liability Insurance**. Tenant shall maintain throughout the entire Term, as may be extended, commercial general liability insurance against any and all claims for bodily injury and property damage occurring in, or about the Premises arising out of Tenant's use and occupancy of the Premises. Such insurance shall have limits of not less than One Million Dollars ($1,000,000) per occurrence with a Two Million Dollar ($2,000,000) aggregate limit and excess umbrella liability insurance in the amount of Four Million Dollars ($4,000,000). Such liability insurance shall be primary and not contributing to any insurance available to Landlord and Landlord's insurance shall be in excess thereto. In no event shall the limits of such insurance be considered as limiting the liability of Tenant under this lease.

12.02 **Tenant's Property Insurance**. Tenant shall maintain throughout the entire term of this Lease, as may be extended, personal property insuring all equipment, trade fixtures, inventory, fixtures, and personal property located on or in the Premises for perils covered by the causes of loss - special form (all risk). Such insurance shall be written on a replacement cost basis in an amount equal to one hundred percent (100%) of the full replacement value of the aggregate of the foregoing.

12.03 **Business Interruption Insurance**. Tenant shall maintain throughout the entire term of this Lease, as may be extended, business interruption and extra expense insurance in such amounts to reimburse Tenant for direct or indirect loss attributable to all perils commonly insured against by prudent tenants or attributable to prevention of access to the Premises or the Building as result of such perils, up to a maximum amount of One Million Dollars ($1,000,000).

12.04 **Workers' Compensation/Employers Liability Insurance**. Tenant shall maintain throughout the entire term of this Lease, as may be extended, workers' compensation insurance in accordance with statutory law and employers' liability insurance with a limit of not less than One Million Dollars ($1,000,000) per accident, One Million Dollar ($1,000,000) disease policy limit and One Million Dollar ($1,000,000) disease limit each employee.

12.05 **Increase in Coverage.** Following the initial term of this Lease and not more than once during any five (5) year period thereafter, Landlord may, by notice to Tenant, require an increase in policy limits; provided that the same are commercially reasonable and in keeping with the insurance requirements of owners of similar properties in the applicable submarket in which the Premises is located.

12.06 **General Requirements.** The policies required to be maintained by Tenant shall be with companies rated A-X or better by A.M. Best. Insurers shall be licensed to do business in the Commonwealth of Massachusetts and domiciled in the USA. Any deductible amounts under any insurance policies required hereunder shall not exceed Ten Thousand Dollars ($10,000). Certificates of insurance shall be delivered to Landlord prior to the commencement date and annually thereafter as soon as practicable prior to the policy expiration date, each identifying Landlord, the applicable property management company and any applicable lender as additional insureds. Tenant shall have the right to provide insurance coverage which it is obligated to carry pursuant to the terms hereof in a blanket policy, provided such blanket policy expressly affords coverage to the Premises and to Landlord as required by this Lease. Each policy of insurance shall provide that the insurance provider will endeavor to notify Landlord at least thirty (30) days prior to any cancellation of the insurance coverage.

12.07 **Failure to Maintain.** In the event Tenant does not purchase the insurance required by this lease or keep the same in full force and effect, Landlord may, but shall not be obligated to purchase the necessary insurance and pay the premium. The Tenant shall repay to Landlord, as additional rent, the amount so paid promptly upon demand. In addition, Landlord may recover from Tenant and Tenant agrees to pay, as additional rent, any and all reasonable expenses (including attorneys' fees) and damages which Landlord may sustain by reason of the failure of Tenant to obtain and maintain such insurance.

12.08 **Waiver of Subrogation.** Landlord and Tenant hereby mutually waive their respective rights of recovery against each other for any loss of, or damage to, either parties' property, to the extent that such loss or damage is insured by an insurance policy (or in the event either party elects to self-insure any property coverage required) required to be in effect at the time of such loss or damage. Each party shall obtain any special endorsements, if required by its insurer whereby the insurer waives its rights of subrogation against the other party. The provisions of this clause shall not apply in those instances in which waiver of subrogation would cause either party's insurance coverage to be voided or otherwise made uncollectible.

ARTICLE 13 - LANDLORD'S RIGHT OF ACCESS

13.01 **Entry into Premises**. Landlord and its contractors and representatives shall have the right to enter the Premises at all reasonable times to perform janitorial and cleaning services and, after written notice (which Landlord shall provide one business day in advance except in the case of emergencies), to inspect the same, to make repairs, alterations and improvements, to maintain the Premises and the Building, specifically including, but without limiting the generality of the foregoing, to make repairs, additions or alterations within the Premises to mechanical, electrical and other facilities serving other premises in the Building, to post such reasonable notices as Landlord may desire to protect its rights, to exhibit the Premises to mortgagees and purchasers, and, during the one (1) year period prior to the expiration of the Term, to exhibit the Premises to prospective tenants. Tenant shall permit Landlord to erect, use, maintain and repair pipes, cables, conduit, plumbing, vents and wires, in, to and through the Premises to the extent Landlord may now or hereafter reasonably deem necessary or appropriate for the proper operation, maintenance and repair of the Building and any portion of the Premises.

13.02 **Landlord's Repairs**. Landlord shall also have the right to take all material into the Premises that may be required for the purposes set forth in the foregoing Section 13.01 without the same constituting a constructive eviction of Tenant, in whole or in part, and Rent shall not abate (except as provided in Articles 9 and 10) while said repairs, alterations, improvements or additions are being made, by reason of loss or interruption of business of Tenant,

or otherwise. If Tenant shall not be personally present to open and permit entry into the Premises, at any time, when for any reason entry therein shall be necessary or desirable, Landlord or Landlord's agents may enter the Premises by a master key, or may forcibly enter the same, without rendering Landlord or such agents liable therefor (if during such entry Landlord or Landlord's agents shall accord reasonable care to Tenant's property), and without in any manner affecting the obligations and covenants of this Lease.

13.03 **Minimize Interference**. In exercising its rights under this Article, Landlord will use reasonable efforts to minimize any interference with Tenant's use or occupancy of the Premises, provided that Landlord will not be obligated to provide overtime labor or perform work after regular Building hours.

ARTICLE 14 - RIGHTS RESERVED TO LANDLORD

Landlord shall have the following rights exercisable without notice and without liability to Tenant for damage or injury to property, person or business (all claim's for damage being hereby waived and released by Tenant) and without effecting an eviction or disturbance of Tenant's use or possession or giving rise to any claim for set-offs or abatement of Rent:

(a) To change the name or street address of the Building or the suite number of the Premises;

(b) To install and maintain signs on the exterior and interior of the Building;

(c) To designate all sources furnishing sign painting and lettering, towels, coffee cart service, vending machines or toilet supplies used or consumed on the Premises and the Building;

(d) To have pass keys to the Premises;

(e) To grant to anyone the exclusive right to conduct any business or render any service in the Building, provided such exclusive right shall not operate to exclude Tenant from the use expressly permitted by this Lease;

(f) To make repairs, additions or alterations to the Building which may change, eliminate or remove common areas, parking areas, or the method of ingress to or egress from the Building and such areas, to convert common areas into leasable areas, or otherwise alter, repair or reconstruct the common areas or change the use thereof, to change the arrangement or location of entrances or passageways, doors and doorways, corridors, elevators, stairs, toilets or other public parts of the Building, and to close entrances, doors, corridors, elevators, plaza or other facilities, and to perform any acts related to the safety, protection, preservation, reletting, sale or improvement of the Premises or the Building;

(g) To have access to all mail chutes or boxes according to the rules of the United States Postal Service;

(h) To require all persons entering or leaving the Building during such hours as Landlord may from time to time reasonably determine to identify themselves to security personnel by registration or otherwise, and to establish their right to enter or leave and to exclude or expel any peddler, solicitor or beggar at any time from the Premises or the Building; and

(i) To close the Building at 6:00 p.m. on weekdays, 1:00 p.m. on Saturdays, and all day on Sundays and Holidays, or at such other reasonable times as Landlord may determine, subject, however, to Tenant's right to admittance under such regulations as shall be prescribed from time to time by Landlord in its reasonable discretion.

ARTICLE 15 - TRANSFER OF LANDLORD'S INTEREST

As used in this Lease, the term "Landlord" means only the current owner of the fee title to the Building or the leasehold estate under a ground lease of the Building at the time in question. Each Landlord is obligated to perform the obligations of Landlord under this Lease only during the time such Landlord owns such interest or title. Any Landlord who transfers its title or interest in the Building is relieved of all liabilities for the obligations of Landlord

under this Lease to be performed on or after the date of transfer. Tenant agrees to look solely to the transferee with respect to all matters in connection with this Lease.

ARTICLE 16 - TRANSFER OF TENANT'S INTEREST

16.01 **Landlord's Consent**. Tenant shall not sell, assign, encumber, mortgage or transfer this Lease or any interest therein, sublet or permit the occupancy or use by others of the Premises or any part thereof, or allow any transfer hereof of any lien upon Tenant's interest by operation of law or otherwise (collectively, a "Transfer") without the prior written consent of Landlord, which consent shall not be unreasonably withheld, conditioned, or delayed. Without limiting Landlord's right to withhold such consent, the withholding of such consent may be based upon, but not limited to, the following:

(1) The financial strength of the proposed assignee or subtenant, including but not limited to the adequacy of its working capital to pay all expenses anticipated in connection with any proposed remodeling of the Premises.

(2) The business reputation, character, history and nature of the business of the proposed assignee or subtenant.

(3) Whether the proposed assignee or subtenant is a person with whom Landlord has negotiated for space in the Building during the twelve (12) month period ending with the date Landlord receives notice of such proposed assignment or subletting.

(4) The proposed assignee or subtenant or any person or entity which directly or indirectly controls, is controlled by or is under common control with the proposed assignee or subtenant, is then an occupant or tenant of any other space in the Building.

(5) The proposed assignee or subtenant is a domestic or foreign government, or an entity related to foreign government, or otherwise be entitled, directly or indirectly, to diplomatic or sovereign immunity (any transferee must be subject to the service of process in, and be subject to the jurisdiction of the courts of, the local jurisdiction in which the Building is located).

(6) Whether the proposed use of the Premises by such proposed assignee or subtenant and the compatibility of such proposed use with (i) Landlord's strategic plan, and (ii) the quality and nature of uses by other tenants. The proposed use must be consistent with the first class nature of the Building.

(7) The proposed use would cause a violation of any other rights granted by Landlord to other tenants.

(8) The proposed assignee or subtenant is a "high density" user or otherwise may overburden the common elements, and the proposed occupancy shall not materially increase the cleaning requirements, impose a material additional burden upon services to be supplied by Landlord to Tenant, or materially increase the burden on either parking or the elevators which service the Premises, in each case beyond that which is associated with normal occupancy.

(9) Whether there then exists any default by Tenant pursuant to this Lease or any non-payment or non-performance by Tenant under this Lease which, with the passage of time or the giving of notice, would constitute a default under this Lease.

(10) Landlord's reasonable determination that each and every covenant, condition or obligation imposed upon Tenant by this Lease and each and every right, remedy or benefit afforded Landlord by this Lease is not impaired or diminished by such assignment or subletting.

(11) Either the area of the Premises to be sublet or the remaining area of the Premises is not regular in shape with appropriate means of ingress or egress suitable for normal renting purposes.

(12) The proposed assignment or sublease instrument does not have the substance or form which is reasonably acceptable to Landlord.

Tenant shall not have publicly advertised in any way the availability of the Premises at a rental rate less than the fixed rent and additional rent at which Landlord is then offering to lease comparable space in the Building for a comparable term, but nothing contained in this clause (x) shall be deemed to prohibit Tenant, without Landlord's consent or approval, from listing with brokers the availability of the Premises for sublet or assignment at any rental rate, and Landlord hereby acknowledges that brokers' fliers shall not be deemed to constitute public advertisements.

Notwithstanding any provision of this Lease to the contrary, provided that Tenant remains liable on this Lease, provides Landlord with prior written notice and names of the applicable transferee and a copy of the applicable assignment or sublease agreement, and Tenant is not then in default beyond any applicable notice and cure period, then the following transfers will not require Landlord's prior consent (each a "Permitted Transfer", and any successor to Tenant pursuant to a Permitted Transfer is sometimes referred to herein as a "Permitted Transferee"):

(a) a transfer to any entity which is controlled by Tenant;

(b) a transfer to any entity which controls Tenant ("Parent");

(c) a transfer to any entity which is controlled by Tenant's Parent; and

(d) a transfer to any entity into which or with which Tenant is merged or consolidated, any entity that acquires more than fifty percent (50%) of Tenant's outstanding voting power, or any entity which purchases substantially all of Tenant's assets, provided that such transferee or surviving corporation has a tangible net worth and credit rating at least as favorable as Tenant at both the time of the execution of this Lease and at the time of the proposed transaction, as evidenced by financial statements (pro forma, if applicable) supplied by Tenant to Landlord.

16.02 Notice to Landlord.

(a) Offer Notice. Prior to any Transfer (other than a Permitted Transfer), Tenant shall submit to Landlord a notice (any such notice being hereinafter called an "Offer Notice"), which may or may not be based upon a bona fide written offer from an independent third party or such third party's broker, along with a non-refundable Transfer request fee of Two Thousand Five Hundred Dollars ($2,500.00). The proposed assignee or subtenant shall provide Landlord with the names of the persons holding an ownership interest in the assignee or subtenant for purposes of compliance with Presidential Executive Order 13224 (issued September 24, 2001). If Tenant shall have received and negotiated a bona fide written offer from an independent third party or such third party's broker, the Offer Notice shall contain the information set forth in clauses (i), (ii), (iii), (iv) and (v) below. If Tenant shall not have received and negotiated a bona fide written offer from an independent third party or such third party's broker, the Offer Notice shall contain the information set forth in clauses (ii), (iii) and (iv) below.

(i) the name and address of the proposed subtenant or assignee and a brief description of such person's or entity's business, such person's or entity's proposed use of the Premises or applicable portion thereof, current financial information in respect of such person or entity (including, without limitation, its most recent balance sheet and income statements certified by its chief financial officer or a certified public accountant, Landlord agreeing to hold any such financial information in confidence and make no disclosure thereof except to Landlord's accountants and attorneys, a Mortgagee or superior lessor, and otherwise as required by law), the identity of any broker entitled to a commission in respect of such subletting or assignment and the commission, if any, payable to such broker, and any other information reasonably requested by Landlord;

(ii) a description of all of the material economic terms and conditions of the proposed subletting or assignment (including, without limitation, with respect to a subletting, a description of the portion of the

Premises proposed to be sublet, the proposed fixed rent, additional rent, base amounts or years, if any, free rent and other concessions, if any, the term, the party responsible for the cost of physical separation and end of term restoration, and other similar, material proposed terms and conditions) setting forth all consideration to be received or paid by Tenant for or in connection with such subletting or assignment (including, without limitation, any payment to be made for Tenant's Property or leasehold improvements) and the terms of payment therefor. A writing containing all of the information required by this clause (ii) submitted by an independent third party (or such party's authorized real estate broker) shall be deemed to be a bona fide offer for purposes hereof even if it shall state in substance that no legally binding agreement will in any event be deemed to exist unless and until Tenant and such third party shall have executed a sublease or assignment instrument, as the case may be. The effective date of the proposed sublease or assignment shall be at least thirty (30) days but not more than one hundred eighty (180) days after the date of the giving of such notice, and the offer shall be conditioned on Landlord's consent thereto and shall comply with the provisions of this Section;

(iii) the transaction expenses reasonably estimated to be incurred by Tenant;

(iv) executed copies of all other agreements, if any, relating to the proposed assignment or sublease and, if not fully disclosed by such agreements, a statement of all consideration to be received or paid by Tenant for or in connection with such assignment or sublease (including, without limitation, any payment to be made for Tenant's Property or leasehold improvements) and the terms of payment therefor; and

(v) such other information as Landlord may reasonably require.

(b) Preliminary Approval. Subject to Landlord's underletting or recapture rights and subject to Landlord's final approval, as applicable, if the Offer Notice is based upon a bona fide written offer from an independent third party or such third party's broker and contains the information required herein, Landlord shall, within thirty (30) days after receipt of such Offer Notice, approve or disapprove the identity of the proposed subtenant or assignee, which approval shall not be unreasonably withheld, conditioned or delayed provided that the conditions herein shall be satisfied.

16.03 **Landlord's Right of Recapture**. Tenant shall, by written notice in the form specified in the following sentence, advise Landlord of Tenant's intention on a stated date (which shall not be less than thirty (30) days after date of Tenant's notice) to sublet, assign, mortgage or otherwise Transfer any part or all of the Premises or its interest therein for the balance or any part of the Term, and, in such event, except in the event of a Permitted Transfer, Landlord shall have the right, to be exercised by giving written notice to Tenant within ten (10) business days after receipt of Tenant's notice, to recapture the space described in Tenant's notice and such recapture notice shall, if given, cancel and terminate this Lease with respect to the space therein described as of the date stated in Tenant's notice. If Tenant's notice shall cover all of the space hereby demised, and Landlord shall elect to give the aforesaid recapture notice with respect thereto, then the Term shall expire and end on the date stated in Tenant's notice as fully and completely as if that date had been herein definitely fixed for the expiration of the Term. If, however, this Lease is terminated pursuant to the foregoing with respect to less than the entire Premises, the Base Rent and Adjustments then in effect shall be adjusted on the basis of the number of rentable square feet retained by Tenant in proportion to the original Rentable Area of the Premises, and this Lease as so amended shall continue thereafter in full force and effect. In such event, Tenant shall pay the cost of erecting demising walls and public corridors and making other required modifications to physically separate the portion of the Premises remaining subject to this Lease from the rest of the Premises. If Landlord, upon receiving Tenant's notice that it intends to sublet or assign any such space, shall not exercise its right to recapture the space described in Tenant's notice, Landlord will, as hereinabove provided, determine whether to approve Tenant's request to sublet or assign the space covered by its notice.

16.04 **Excess Rent**. If Tenant individually, or as debtor or debtor in possession or if a trustee in bankruptcy acting on behalf of Tenant pursuant to the Bankruptcy Code, 11 U.S.C. 101 et seq., shall sublet or assign the Premises or any part thereof or assign any interest in this Lease at a rental rate (or additional consideration) in excess of the then current Base Rent and Adjustments per rentable square foot, fifty percent (50%) of said excess Rent (or additional consideration) shall be and become the property of Landlord and shall be paid to Landlord as it is received by Tenant, less Tenant's reasonable brokerage (excluding commissions paid to brokers who are Tenant's affiliates), legal and

other expenses ("Tenant's Costs") incurred in connection with such assignment or, in the case of a sublease, less the monthly pro rata share of such Tenant's Costs as determined by dividing such Tenant's Costs by the number of months in the term of such sublease. If Tenant shall sublet the Premises or any part thereof, Tenant shall be responsible for all actions and neglect of the subtenant and its officers, partners, employees, agents, guests and invitees as if such subtenant and such persons were employees of Tenant. Nothing in this Section shall be construed to relieve Tenant from the obligation to obtain Landlord's prior written consent to any proposed sublease.

16.05 **Included Transfers**. If Tenant is a partnership, a withdrawal or change, whether voluntary, involuntary or by operation of law or in one or more transactions, of partners owning a controlling interest in Tenant shall be deemed a voluntary assignment of this Lease and subject to the provisions of this Article. If Tenant is a corporation, any dissolution, merger, consolidation or other reorganization of Tenant, or the sale, transfer or redemption of a controlling interest of the capital stock of Tenant in one or more transactions, shall be deemed a voluntary assignment of this Lease and subject to the provisions of this Article. However, the preceding sentence shall not apply to corporations the stock of which is traded through a national or regional exchange or over-the-counter. Neither this Lease nor any interest therein nor any estate created thereby shall pass by operation of law or otherwise to any trustee, custodian or receiver in bankruptcy of Tenant or any assignee for the assignment of the benefit of creditors of Tenant.

16.06 **Marketing**. Tenant hereby agrees to list the Premises (or portion thereof) for subleasing or assignment through a broker or real estate agent designated by Landlord and no other broker or real estate agent.

16.07 **Options**. Tenant acknowledges and agrees that any and all options granted under this Lease, if any (including, without limitation, options regarding termination, renewal, extension, expansion, offer and/or refusal), shall be deemed to be personal to Tenant and any Permitted Transferee and if Tenant subleases, assigns or otherwise transfers any interest hereunder (other than to a Permitted Transferee) prior to the exercise of such option, such option shall lapse and be of no further force or effect.

16.08 **NO RELEASE**. UNDER NO CIRCUMSTANCES SHALL ANY TRANSFER BY TENANT, REGARDLESS OF WHETHER LANDLORD'S CONSENT WAS REQUIRED OR GIVEN, RELEASE TENANT OR ANY GUARANTOR FROM ANY OBLIGATIONS UNDER THIS LEASE OR ANY APPLICABLE GUARANTY.

16.09 **Space Sharing Arrangement.** Notwithstanding anything contained in this Article 16 or elsewhere in this Lease to the contrary, Tenant may, without the prior written consent of Landlord and free of all rights of Landlord to recapture any portion of the Premises pursuant to Section 16.03, above, enter into Space Sharing Arrangements (as hereinafter defined) with Qualified Parties and shall have the right to replace any one or more of such Qualified Parties from time to time with other Qualified Parties; provided, however, that such Qualified Parties shall not occupy, in the aggregate, more than 50% of the rentable square feet of floor area of the Premises. As used herein, the term "Space Sharing Arrangement" shall mean arrangements for use by a Qualified Party (and its employees) of all or any part of the Premises and Tenant agrees that there shall be no separate construction of partitions, offices or entrances. In connection with any such Space Sharing Arrangement, Tenant shall (a) notify Landlord of the Qualified Party's name, and (b) provide such information as reasonably requested by Landlord in order to verify compliance with the provisions of this Lease. As used herein, the term "Qualified Party" shall mean any affiliate of Tenant or any subsidiary of Tenant. Notwithstanding any Space Sharing Arrangement, the liability of Tenant to Landlord shall remain direct and primary. Landlord agrees to reasonably cooperate with Tenant in providing Qualified Parties with access to the Building and the Premises.

The Qualified Parties may occupy space in the Premises for the Permitted Uses and for no other purpose. If any Qualified Party occupies any portion of the Premises as described herein, it is agreed that (i) the use of the Premises by such Qualified Party shall be subject to all provisions of this Lease; (ii) all notices required of Landlord under this Lease shall be forwarded only to Tenant in accordance with the terms of this Lease and in no event shall Landlord be required to send any notices to any Qualified Party; (iii) in no event shall any use or occupancy of any portion of the Premises by any Qualified Party release or relieve Tenant from any of its obligations under this Lease; and (iv) in no event shall the occupancy of any portion of the Premises by Qualified Parties be deemed to create a landlord/tenant

relationship between Landlord and such Qualified Parties, and, in all instances, Tenant shall be considered the sole tenant under this Lease notwithstanding the occupancy of any portion of the Premises by such Qualified Parties.

ARTICLE 17 - DEFAULT; LANDLORD'S RIGHTS AND REMEDIES

17.01 **Default**. The occurrence of any one or more of the following matters constitutes a default ("Default") by Tenant under this Lease:

(a) Failure by Tenant to pay, within five (5) days after the due date, any Rent or any other amounts due and payable by Tenant under this Lease; provided, however, on the first (1st) occasion with respect to such failure during any twelve (12) month period, Landlord shall furnish Tenant with written notice of such failure and permit Tenant a five (5) day period to cure such failure;

(b) Failure by Tenant to observe or perform any other covenant, agreement, condition or provision of this Lease, if such failure shall continue for twenty (20) days after written notice thereof to Tenant by Landlord; provided, if the default is not reasonably susceptible to a cure within twenty (20) days, Tenant shall be afforded a reasonable period thereafter to effect a cure;

(c) The levy upon execution or the attachment by legal process of the leasehold interest of Tenant, or the filing or creation of a lien in respect of such leasehold interest;

(d) Tenant or any guarantor of this Lease becomes insolvent or bankrupt or admits in writing its inability to pay its debts as they mature, makes an assignment for the benefit of creditors, or applies for or consents to the appointment of a trustee or receiver for itself or for all or a part of its property;

(e) Proceedings for the appointment of a trustee, custodian or receiver of Tenant or any guarantor of this Lease or for all or a part of Tenant's or such guarantor's property are filed against Tenant or such guarantor and are not dismissed within thirty (30) days;

(f) Proceedings in bankruptcy, or other proceedings for relief under any law for the relief of debtors, are instituted by or against Tenant or any guarantor of this Lease, and, if instituted against Tenant or such guarantor, are allowed against either or are consented to by either or are not dismissed within sixty (60) days thereof; and

(g) Tenant shall repeatedly default in the timely payment of Rent or any other charges required to be paid, or shall repeatedly default in keeping, observing or performing any other covenant, agreement, condition or provision of this Lease, whether or not Tenant shall timely cure any such payment or other default. For the purposes of this subsection, the occurrence of similar defaults three (3) times during any twelve (12) month period shall constitute a repeated default.

Any notice periods provided for under this Article shall run concurrently with any statutory notice periods, and any notice given hereunder may be given simultaneously with or incorporated into any such statutory notice.

17.02 **Landlord's Remedies**. If a Default occurs, Landlord shall have the following rights and remedies, which shall be distinct, separate and cumulative, and which may be exercised by Landlord concurrently or consecutively in any combination and which shall not operate to exclude or deprive Landlord of any other right or remedy which Landlord may have at law or in equity:

(a) Landlord may terminate this Lease by giving to Tenant notice of Landlord's intention to do so, in which event the Term shall end, and all right, title and interest of Tenant hereunder shall expire, on the date stated in such notice;

(b) Landlord may terminate the right of Tenant to possession of the Premises by any lawful means, without terminating this Lease. In such event, Tenant's obligations under this Lease shall continue in full

force and effect and Landlord shall be entitled to recover from Tenant all damages incurred by Landlord by reason of Tenant's default, not limited to those set forth herein; and

(c) Landlord may enforce the provisions of this Lease and may enforce and protect the rights of Landlord hereunder by a suit or suits in equity or at law for the specific performance of any covenant or agreement contained herein, or for the enforcement of any other appropriate legal or equitable remedy, including injunctive relief and recovery of all moneys due or to become due from Tenant under any of the provisions of this Lease.

17.03 **Surrender of Possession**. If Landlord exercises either of the remedies provided for in subparagraphs (a) and (b) of Section 17.02 above, Tenant shall surrender possession and vacate the Premises immediately and deliver possession thereof to Landlord, and Landlord may then, or at any time thereafter, re-enter and take complete and peaceful possession of the Premises, full and complete license so to do being granted to Landlord, and Landlord may remove all property therefrom, without being deemed in any manner guilty of trespass, eviction or forcible entry and detainer and without relinquishing Landlord's right to Rent or any other right given to Landlord hereunder or by operation of law. Any re-entry by Landlord following abandonment by Tenant shall not, unless Landlord so elects in a written notice to Tenant, constitute or be deemed to constitute acceptance by Landlord of a surrender of this Lease, but rather, upon such abandonment, Tenant's right to possession of the Premises shall cease, but Tenant shall remain liable for all of its obligations under this Lease.

17.04 **Damages**. If Landlord terminates the right of Tenant to possession of the Premises without terminating this Lease, such termination of possession shall not release Tenant, in whole or in part, from Tenant's obligation to pay the Rent hereunder for the full stated Term, and Landlord shall have the right to the immediate recovery of all such amounts. Alternatively, at Landlord's option, Landlord shall have the right, from time to time, to recover from Tenant, and Tenant shall remain liable for, all Base Rent and Adjustments and any other sums then due under this Lease during the period from the date of such notice or termination of possession to the end of the Term. Landlord may file suit from time to time to recover any such sums and no suit or recovery by Landlord of any such sums or portion thereof shall be a defense to any subsequent suit brought for any other sums due under this Lease. Alternatively, if Landlord elects to terminate this Lease, Landlord shall be entitled to recover from Tenant all Base Rent and Adjustments accrued and unpaid for the period up to and including such termination date, as well as all other additional sums payable by Tenant hereunder. In addition, Landlord shall be entitled to recover, as damages for loss of the benefit of its bargain and not as a penalty, the sum of (x) the unamortized cost to Landlord, computed and determined in accordance with generally accepted accounting principles, of any tenant improvements provided by Landlord at its expense, (y) the aggregate sum which at the time of such termination represents the excess, if any, or the present value of the aggregate Base Rent and Adjustments (as reasonably estimated by Landlord) for the remainder of the Term over the then present value of the then aggregate fair rental value of the Premises for the balance of the Term, immediately prior to such termination, such present worth to be computed in each case on the basis of a six percent (6%) per annum discount from the respective dates upon which rentals would have been payable hereunder had the Term not been terminated, and (z) any damages in addition thereto, including reasonable attorneys' fees and court costs, which Landlord shall have sustained by reason of the breach of any of the covenants of this Lease other than for the payment of Rent.

17.05 **Reletting**. In the event Landlord terminates the right of Tenant to possession of the Premises without terminating this Lease as aforesaid, Landlord shall use reasonable efforts to relet the Premises or any part thereof for the account of Tenant for such rent, for such time (which may be for a term extending beyond the Term) and upon such terms as Landlord in Landlord's sole discretion shall determine (including concessions of free rent and other inducements to prospective tenants), and Landlord shall not be required to accept any tenant offered by Tenant or to observe any instructions given by Tenant relative to such reletting and may give the leasing of any unleased space in the Building priority over the reletting of the Premises. Also, in any such event, Landlord may make repairs, alterations and additions in or to the Premises and redecorate the same to the extent deemed by Landlord necessary, and, in connection therewith, change the locks to the Premises, and Tenant shall upon demand pay the cost thereof together with Landlord's expenses of reletting. Landlord may collect the rents from any such reletting and apply the same first to the payment of the expenses of re-entry, redecoration, repair and alterations and the expense of reletting (including without limitation brokers' commissions and reasonable attorneys' fees) and second to the payment of Rent herein provided to be paid by Tenant. Any excess or residue shall operate only as an offsetting credit against the

amount of Rent as the same theretofore became or thereafter becomes due and payable hereunder, but the use of such offsetting credit to reduce the amount of Rent due Landlord, if any, shall not be deemed to give Tenant any right, title or interest in or to such excess or residue and any such excess or residue shall belong solely to Landlord. No such re-entry or repossession, repairs, alterations and additions, or reletting shall be construed as an eviction or ouster of Tenant, an election on Landlord's part to terminate this Lease or an acceptance of a surrender of this Lease, unless a written notice of such intention be given to Tenant, or shall operate to release Tenant in whole or in part from any of Tenant's obligations hereunder. Landlord may, at any time and from time to time, sue and recover judgment for any deficiencies remaining after the application of the proceeds of any such reletting.

17.06 **Removal of Tenant's Property**. All property removed from the Premises by Landlord pursuant to any provisions of this Lease or of law shall be handled, removed or stored by Landlord at the cost, expense and risk of Tenant, and Landlord, shall in no event be responsible for the value, preservation or safekeeping thereof. Tenant shall pay Landlord upon demand for all expenses incurred by Landlord in such removal and storage.

17.07 **Intentionally Omitted**.

17.08 **Costs**. Tenant shall pay all costs, charges and expenses, including, without limitation, court costs and reasonable attorneys' fees incurred by Landlord or its beneficiaries in enforcing Tenant's obligations under this Lease, in the exercise by Landlord of any of its remedies in the event of a default, in any litigation, negotiation or transactions in which Tenant causes Landlord, without Landlord's fault, to become involved or concerned, or in consideration of any request for approval of or consent to any action by Tenant which is prohibited by this Lease or which may be done only with Landlord's approval or consent, whether or not such approval or consent is given.

17.09 **Late Charges and Interest**. At the option of Landlord, Landlord may impose a late payment fee equal to ten percent (10%) of the amount due if any payment of Rent is paid more than five (5) days after its due date. In addition, any amount due hereunder shall bear interest after default in the payment thereof at the annual rate of Prime plus five percent (5%) "Prime" means the prime interest rate per annum for commercial loans (as published from time to time by The Wall Street Journal (http://www.wsjprimerate.us), and with any changes in such rate to be effective on the date such change is published) plus five percent (5%) per annum, but if such rate exceeds the maximum interest rate permitted by law, such rate will be reduced to the highest rate allowed by law under the circumstances, provided that in no event shall such interest rate exceed the highest legal interest rate for business loans. Notwithstanding the foregoing, on the first (1st) occasion and second (2^{nd}) occasion (so long as the second (2^{nd}) occasion does not occur with respect to the next payment of Rent due directly following the first (1^{st}) occasion) only during any twelve-month period during the Term, no such late charge or interest shall be payable with respect to any delinquent payment if such payment is received by Landlord within five (5) days following written notice of such failure. Further, to partially compensate Landlord for banking, administrative and accounting costs, Tenant shall pay to Landlord a fee of One Hundred Dollars ($100.00) (which may be increased from time to time, upon prior written notice) per occurrence for any check received for payments under this Lease that is not immediately honored for any reason whatsoever (including, without limitation, insufficient funds), which fee shall be in addition and without limitation to any other amounts claimed by Landlord.

17.10 **Landlord's Right to Perform Tenant's Duties**. If Tenant fails timely to perform any of its duties under this Lease, Landlord shall have the right (but not the obligation), after the expiration of any grace period specifically provided by this Lease, to perform such duty on behalf and at the expense of Tenant without further notice to Tenant, and all sums expended or expenses incurred by Landlord in performing such duty shall be deemed to be Rent under this Lease and shall be due and payable to Landlord upon demand by Landlord.

17.11 **Cumulative Rights**. All of Landlord's rights and remedies under this Lease shall be cumulative with and in addition to any and all rights and remedies which Landlord may have at law or in equity. Any specific remedy provided for in any provision of this Lease shall not preclude the concurrent or consecutive exercise of a remedy provided for in any other provision hereof.

ARTICLE 18 - COUNTERCLAIMS AND WAIVER OF JURY TRIAL

EXCEPT FOR COMPULSORY OR MANDATORY COUNTERCLAIMS, TENANT HEREBY WAIVES ANY RIGHT TO PLEAD ANY COUNTERCLAIM, OFFSET OR AFFIRMATIVE DEFENSE IN ANY ACTION OR PROCEEDINGS BROUGHT BY LANDLORD AGAINST TENANT PURSUANT TO FORCIBLE EVICTION AND DETAINER LAWS OR OTHERWISE, FOR THE RECOVERY OF POSSESSION BASED UPON THE NON-PAYMENT OF RENT OR ANY OTHER DEFAULT. THIS SHALL NOT, HOWEVER, BE CONSTRUED AS A WAIVER OF TENANT'S RIGHT TO ASSERT ANY CLAIM IN A SEPARATE ACTION BROUGHT BY TENANT AGAINST LANDLORD. TO THE EXTENT PERMITTED BY LAW, LANDLORD AND TENANT AND THEIR RESPECTIVE OFFICERS, DIRECTORS, AGENTS AND EMPLOYEES AGREE THAT EACH SHALL, AND DO HEREBY, WAIVE TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM BROUGHT BY, BETWEEN OR AGAINST THE PARTIES HERETO OR THEIR SUCCESSORS OR ASSIGNS OR THEIR RESPECTIVE OFFICERS, DIRECTORS, AGENTS AND EMPLOYEES ON ANY MATTERS ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS LEASE, THE RELATIONSHIP OF LANDLORD AND TENANT, AND/OR TENANT'S USE OR OCCUPANCY OF THE PREMISES. THIS WAIVER IS MADE FREELY AND VOLUNTARILY, WITHOUT DURESS AND ONLY AFTER EACH OF THE PARTIES HERETO HAS HAD THE BENEFIT OF ADVICE FROM LEGAL COUNSEL ON THIS SUBJECT.

ARTICLE 19 - SUBORDINATION; ATTORNMENT; ESTOPPEL CERTIFICATE

19.01 **Subordination**. Landlord may have heretofore encumbered or may hereafter encumber with a mortgage or trust deed the Building, or any interest therein, and may have heretofore sold and leased back or may hereafter sell and lease back the land on which the Building is located, and may have heretofore encumbered or may hereafter encumber the leasehold estate under such lease with a mortgage or trust deed. Any such mortgage or trust deed is herein called a "Mortgage" and the holder of any such mortgage or the beneficiary under any such trust deed is herein called a "Mortgagee." Any such lease of the underlying land is herein called a "Ground Lease", and the lessor under any such lease is herein called a "Ground Lessor." Any Mortgage which is a first lien against the Building, the land on which the Building is located, the leasehold estate or the lessor under a Ground Lease (if the property is not then subject to an unsubordinated mortgage) is herein called a "First Mortgage" and the holder or beneficiary of or Ground Lessor under any First Mortgage is herein called a "First Mortgagee." Tenant acknowledges and agrees that this Lease is subordinate to the currently existing First Mortgage in effect as of the date of this Lease. Further, this Lease shall be subject and subordinate to any First Mortgage hereafter encumbering the Building provided that such future First Mortgagee has executed a non-disturbance agreement in a commercially reasonable form, reasonably acceptable to Landlord and Tenant. Subject to Tenant's rights set forth in the preceding sentence, if requested by a First Mortgagee, Tenant will either (i) subordinate its interest in this Lease to said First Mortgage, and to any and all advances made thereunder and to the interest thereon, and to all renewals, replacements, supplements, amendments, modifications and extensions thereof, or (ii) make certain of Tenant's rights and interest in this Lease superior thereto; and Tenant will promptly execute and deliver such agreement or agreements as may be reasonably required by such Mortgagee or Ground Lessor; provided, however, Tenant covenants it will not subordinate this Lease to any Mortgage or Ground Lease other than a First Mortgage (including a Ground Lease defined as a First Mortgage hereunder) without the prior written consent of the First Mortgagee. Tenant agrees that Landlord may assign the rents and interests in this Lease to the holder of any Mortgage or Ground Lease. Tenant agrees that Landlord may assign the rents and interests in this Lease to the holder of any Mortgage or Ground Lease. In conjunction with the foregoing provisions, following written request, Tenant hereby agrees to complete and execute any Subordination, Non-Disturbance and Attornment Agreement and/or Lease Estoppel Certificate, on such lender's or mortgagee's standard form provided the same is commercially reasonable and remit the same to Landlord within ten (10) business days. Notwithstanding anything to the contrary contained in this Section 19.01, Landlord shall use commercially reasonable efforts to deliver to Tenant, within sixty (60) days after the mutual execution and delivery of this Lease, a duly executed and notarized non-disturbance agreement, from the current First Mortgagee as of the date of this Lease, on such First Mortgagee's standard form which shall be commercially reasonable and shall be reasonably acceptable to Landlord and Tenant.

19.02 **Attornment**. It is further agreed that (a) if any Mortgage shall be foreclosed, or if any Ground Lease be terminated, (i) the liability of the Mortgagee or purchaser at such foreclosure sale or the liability of a subsequent owner designated as Landlord under this Lease shall exist only so long as such Mortgagee, purchaser or owner is the owner of the Building or the land on which the Building is located, and such liability shall not continue or survive after further transfer of ownership; and (ii) upon request of the Mortgagee, if the Mortgage shall be foreclosed, Tenant will attorn, as Tenant under this Lease, to the purchaser at any foreclosure sale under any Mortgage or upon request of the Ground Lessor, if any Ground Lease shall be terminated, Tenant will attorn as Tenant under this Lease to the Ground Lessor, and Tenant will execute such instruments as may be necessary or appropriate to evidence such attornment; (b) this Lease may not be modified or amended so as to reduce the Rent or shorten the Term provided hereunder, or so as to adversely affect in any other respect to any material extent the rights of Landlord or its successor, nor shall this Lease be canceled or surrendered, without the prior written consent, in each instance, of the First Mortgagee; and (c) Tenant waives the provisions of any statute or rule of law, now or hereafter in effect, that may give or purport to give Tenant any right to terminate or otherwise adversely affect Landlord's interest in this Lease or reduce or limit the obligations of Tenant hereunder in the event of the prosecution or completion of any such foreclosure proceeding. No Mortgagee or any purchaser at a foreclosure sale shall be liable for any act or omission of Landlord which occurred prior to such sale or conveyance, nor shall Tenant be entitled to any offset against or deduction from Rent due after such date by reason of any act or omission of Landlord prior to such date. Further, Tenant agrees that no Mortgagee shall be bound by the prepayment of Rent made in excess of thirty (30) days before the date on which such payment is due.

19.03 **Mortgagee Requirements**. Should any prospective First Mortgagee require a modification or modifications of this Lease, which modification or modifications will not cause an increased cost or expense to Tenant or in any other way materially and adversely change the rights and obligations of Tenant hereunder, in the reasonable judgment of Tenant, then and in such event, Tenant agrees that this Lease may be so modified and agrees to execute whatever documents are required therefor and deliver the same to Landlord within ten (10) business days following the request therefor. Should any prospective Mortgagee or Ground Lessor require execution of a short form of lease for recording (containing, among other customary provisions, the names of the parties, a description of the Premises and the Term of this Lease), Tenant agrees to execute such short form of Lease and deliver the same to Landlord within ten (10) business days following the request therefor. Should any prospective First Mortgagee notify Tenant in writing that said First Mortgagee has terminated Landlord's license to collect rents and other monetary amounts under this Lease, Tenant shall thereafter remit all rent (and other monetary amounts required to be paid by Tenant under this Lease to Landlord, if any) directly to such First Mortgagee, and Landlord waives any right, claim, or demand it may have against Tenant by reason of Tenant's payment of said sums to such First Mortgagee.

19.04 **Mortgagee's Notice and Cure Rights**. Tenant agrees to give any First Mortgagee, by registered or certified mail, a copy of any notice or claim of default served upon Landlord by Tenant, provided that prior to such notice Tenant has been notified in writing (by way of service on Tenant of a copy or an assignment of Landlord's interests in leases, or otherwise) of the address of such First Mortgagee. Tenant further agrees that if Landlord shall have failed to cure such default within thirty (30) days after such notice to Landlord (or if such default cannot be cured or corrected within that time, then such additional time as may be necessary if Landlord has commenced within such thirty (30) days and is diligently pursuing the remedies or steps necessary to cure or correct such default), then the First Mortgagee shall have an additional thirty (30) days within which to cure or correct such default (or if such default cannot be cured or corrected within that time, then such additional time as may be necessary if such First Mortgagee has commenced within such thirty (30) days and is diligently pursuing the remedies or steps necessary to cure or correct such default, including the time necessary to obtain possession if possession is necessary to cure or correct such default) before Tenant may exercise any right or remedy which it may have on account of any such default of Landlord.

19.05 **Estoppel Certificate.** Tenant agrees that from time to time, upon not less than ten (10) business days' prior written request by Landlord, Tenant will, and Tenant will cause any subtenant, licensee, concessionaire or other occupant of the Premises to, promptly complete, execute and deliver to Landlord or any party or parties designated by Landlord a statement in writing certifying: (i) that this Lease is unmodified and in full force and effect (or if there have been modifications that the same are in full force and effect as modified and identifying the modifications); (ii) the dates to which the Rent and other charges have been paid; (iii) that the Premises have been

unconditionally accepted by Tenant (or if not, stating with particularity the reasons why the Premises have, not been unconditionally accepted); (iv) the amount of any Security Deposit held hereunder; (v) that, so far as the party making the certificate knows, Landlord is not in default under any provisions of this Lease, if such is the case, and if not, identifying all defaults with particularity; and (vi) any other matter reasonably requested by Landlord. The initial form of estoppel certificate is attached hereto as **Exhibit E**. Any purchaser or Mortgagee of any interest in the Building shall be entitled to rely on said statement. Failure to give such a statement within ten (10) business days after said written request shall be conclusive evidence, upon which Landlord and any such purchaser or Mortgagee shall be entitled to rely, that this Lease is in full force and effect and Landlord is not in default and Tenant shall be estopped from asserting against Landlord or any such purchaser or Mortgagee any defaults of Landlord existing at that time but Tenant shall not thereby be relieved of the affirmative obligation to give such statement. In the event that Tenant fails to provide Landlord with such estoppel certificate within such ten (10) business day period, Landlord shall provide Tenant with a second notice (the "Second Estoppel Notice") requesting such estoppel certificate. Such Second Estoppel Notice shall substantially state in capital letters, "FAILURE TO RETURN THE ESTOPPEL CERTIFICATE AS REQUESTED HEREIN SHALL RESULT IN A $100 PER DAY FEE." For each day that Tenant fails to remit the estoppel certificate, commencing on the fifth (5th) day after Tenant's receipt of the Second Estoppel Notice, Tenant shall pay a late fee of One Hundred Dollars ($100) per day until the day on which Tenant remits the estoppel certificate as set forth herein. In addition, if such failure persists after such five (5) day period, Landlord shall be entitled to pursue any and all remedies it may have with respect to such Default, including termination of this Lease or Tenant's right to possession and collection of damages arising by reason of such Default.

19.06 **Quiet Enjoyment**. Upon payment by Tenant of the rents herein provided, and upon the observance and performance of all the covenants, terms and conditions on Tenant's part to be observed and performed, Tenant shall peaceably and quietly hold and enjoy the Premises for the Term without hindrance or interruption by Landlord or any other person or persons lawfully or equitably claiming by, through or under Landlord, subject, nevertheless, to the terms and conditions of this Lease, and any mortgage and/or deed of trust to which this Lease is subordinate.

ARTICLE 20 - HAZARDOUS MATERIALS

20.01 **Definition.** As used in this Lease, the term "Hazardous Material" means any flammable items, explosives, radioactive materials, hazardous or toxic substances, material or waste or related materials, including any substances defined as or included in the definition of "hazardous substances", "hazardous wastes", "infectious wastes", "hazardous materials" or "toxic substances" now or subsequently regulated under any applicable federal, state or local laws or regulations including, without limitation, oil, petroleum-based products, paints, solvents, lead, cyanide, DDT, printing inks, acids, pesticides, ammonia compounds and other chemical products, asbestos, PCBs and similar compounds, and including any different products and materials which are subsequently found to have adverse effects on the environment or the health and safety of persons.

20.02 **General Prohibition.** Except for storage and use of cleaning and office supplies in the ordinary course of Tenant's business, and at all times in compliance with applicable law, Tenant shall not cause or permit any Hazardous Material to be generated, produced, brought upon, used, stored, treated or disposed of in or about the Premises or the Property by Tenant, its agents, employees, contractors, sublessees or invitees without the prior written consent of Landlord.

20.03 **Indemnification.** Tenant shall indemnify, defend and hold Landlord 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), expenses (including, without limitation, attorneys', consultants', and experts' fees, court costs and amounts pad in settlement or 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, contamination of, or adverse effects upon, the environment, water tables or natural resources), liabilities or liabilities or losses (economic or other) arising from a breach of this prohibition by Tenant, its agents, Qualified Parties, employees, contractors, sublessees or invitees. The indemnification obligations of the Tenant contained in this Subsection 20.03 shall survive the expiration or termination of the Lease.

20.04 **Obligation to Remediate.** In the event that Hazardous Materials are discovered upon, in, or under the Premises, and the applicable governmental agency or entity having jurisdiction over the Premises requires the removal of such Hazardous Materials arising out of or related to the use or occupancy of the Premises by Tenant or its agents, affiliates, customers, employees, business associates or assigns, but not those of its predecessors, Tenant shall at its sole cost and expense remove such Hazardous Materials, and perform any remediation or other action required by the applicable governmental agency or reasonably required by Landlord necessary to make full economic use of the Property. Notwithstanding the foregoing, Tenant shall not take any remedial action in or about the Premises or the Property, nor enter into any settlement agreement, consent decree or other compromise with respect to any claims relating to any Hazardous Material in any way connected with the Premises or the Property without first notifying Landlord of Tenant's intention to do so and affording Landlord the opportunity to appear, intervene or otherwise appropriately assert and protect Landlord's interest with respect thereto. Tenant immediately shall notify Landlord in writing of: (i) any spill, release, discharge or disposal of any Hazardous Material in, on or under the Premises, the Property or any portion thereof; (ii) any enforcement, cleanup, removal or other governmental or regulatory action instituted, contemplated, or threatened pursuant to any Hazardous Materials Laws; (iii) any claim made or threatened by any person against Tenant, the Premises, or the Property relating to damage, contribution, cost recovery, compensation, loss or injury resulting from or claimed to result from any Hazardous Materials; and (iv) any reports made to any environmental agency arising out of or in connection with any Hazardous Materials in, on or removed from the Premises or the Property, including any complaints, notices, warnings, reports or asserted violations in connection therewith. Tenant also shall supply to Landlord as promptly as possible, and in any event within five (5) business days after Tenant first receives or sends the same, copies of all claims, reports, complaints, notices, warnings or asserted violations relating in any way to the Premises, the Property or Tenant's use thereof.

20.05 **Survival.** Tenant's breach of any of its covenants or obligations contained in this Article shall constitute a material default under the Lease. The obligations of the Tenant contained in this Article shall survive the expiration or earlier termination of the Lease without any limitation and shall constitute obligations that are independent and severable from Tenant's covenants and obligations to pay rent under the Lease.

ARTICLE 21 — INTENTIONALLY OMITTED

ARTICLE 22 - MISCELLANEOUS

22.01 **Notices.** All notices, demands, approvals, consents, requests for approval or consent or other writings in this Lease provided to be given, made or sent by either party hereto to the other ("Notice") shall be in writing and shall be deemed to have been fully given, made or sent when made by personal service, nationally- recognized overnight courier, or two (2) business days after deposit in the United States mail, certified or registered and postage prepaid and properly addressed as follows:

To Landlord:	To Landlord at the address set forth in Article 1 above, with a copy to Landlord's Management Agent at the address set forth in Article 1 above.
To Tenant:	If any Notice is to be given Tenant prior to occupancy, to the address set forth in Section 1.02. If any Notice is to be given Tenant after occupancy, to the Premises; provided, however, if the Premises shall have been vacated, Notice may be posted on the door to the Premises, and to the address set forth in Section 1.02.

The address to which any Notice should be given, made or sent to either party may be changed by written notice given by such party as above provided. Any notice, demand, request or consent to be made by or required of Landlord, may be made and given by Landlord's Management Agent with the same force and effect as if made and given by Landlord.

22.02 **Brokers.** Landlord and Tenant represent and warrant unto each other that each has directly dealt with and only with Landlord's Management Agent and the Brokers, if any, identified in Article 1 of this Lease as brokers in connection with this Lease, and agree to indemnify and hold harmless each other from and against any and all claims or demands, damages, liabilities and expenses of any type or nature whatsoever arising by reason of the

incorrectness or breach of the aforesaid representation or warranty. Landlord agrees to pay the commissions due to the Brokers identified in Article 1 of this Lease pursuant to separate agreements.

22.03 **Benefit**. Subject to the provisions of Articles 15 and 16 hereof, all terms, covenants and conditions on this Lease shall be binding upon and inure to the benefit of and shall apply to the respective heirs, executors, administrators, successors, assigns and legal representatives of Landlord and Tenant.

22.04 **Execution and Delivery**. The execution of this Lease by Tenant and delivery of the same to Landlord or Landlord's Management Agent do not constitute a reservation of or option to lease the Premises or an agreement by Landlord to enter into a Lease, and this Lease shall become effective only if and when Landlord executes and delivers a counterpart hereof to Tenant. If Tenant is a corporation, it shall deliver to Landlord concurrently with the delivery to Landlord of an executed Lease, a certified resolution of Tenant's directors authorizing execution and delivery of this Lease and the performance by Tenant of its obligations hereunder. If Tenant is a partnership, it shall deliver to Landlord concurrently with the delivery to Landlord of an executed Lease, a certified copy of its partnership agreement or other satisfactory evidence of execution and performance authority. Tenant shall not record this Lease or any memorandum or other evidence hereof.

22.05 **Defaults under Other Lease Agreement**. If the term of any lease (other than this Lease) made by Tenant for any demised premises in the Building or any other agreement with Landlord shall be terminated or terminable after the making of this Lease, because of any default by Tenant under such other lease or agreement, such fact shall empower Landlord, at Landlord's sole option, to declare this Lease to be in default by written notice to Tenant.

22.06 **Applicable Law**. This Lease shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts and the parties agree that venue is proper in Boston, Massachusetts and the parties hereby submit themselves to the jurisdiction of the courts located therein.

22.07 **Non-Waiver of Defaults**. No waiver of any provision of this Lease shall be implied by any failure of Landlord or Tenant to enforce any remedy on account of the violation of such provision, even if such violation be continued or repeated subsequently, and no express waiver shall affect any provision other than the one specified in such waiver and in that event only for the time and in the manner specifically stated. No receipt of monies by Landlord from Tenant after the termination of this Lease will in any way alter the length of the Term of Tenant's right of possession hereunder or, after the giving of any notice, shall reinstate, continue or extend the Term or affect any notice given Tenant prior to the receipt of such monies, it being agreed that after the service of notice or the commencement of a suit or after final judgment for possession of the Premises, Landlord may receive and collect any Rent due, and the payment of Rent shall not waive or affect said notice, suit or judgment, nor shall any such payment be deemed to be other than on account of the amount due, nor shall the acceptance of Rent be deemed a waiver of any breach by Tenant of any term, covenant or condition of this Lease. No endorsement or statement on any check or any letter accompanying any check or payment of Rent shall be deemed an accord and satisfaction. Landlord may accept any such check or payment without prejudice to Landlord's right to recover the balance due of any installment or payment of Rent or pursue any other remedies available to Landlord with respect to any existing Defaults. None of the terms, covenants or conditions of this Lease can be waived by either Landlord or Tenant except by appropriate written instrument.

22.08 **Force Majeure**. Landlord and Tenant shall not be deemed in default with respect to the failure to perform any of the terms, covenants and conditions of this Lease on Landlord's or Tenant's part to be performed, if such failure is due in whole or in part to any strike, lockout, labor dispute (whether legal or illegal), civil disorder, inability to procure materials, failure of power, restrictive governmental laws and regulations, riots, insurrections, war, fuel shortages, accidents, casualties, Acts of God, acts caused directly or indirectly by Tenant (or Tenant's agents, employees, guests or invitees), or Landlord (or Landlord's agents, employees, guests or invitees) acts of other tenants or occupants of the Building or any other cause beyond the reasonable control of Landlord or Tenant. In such event, the time for performance by Landlord shall be extended by an amount of time equal to the period of the delay so caused. Landlord shall not be liable to Tenant for any expense, injury, loss or damage resulting from work done in or upon, or the use of, any adjacent or nearby building, land, street, alley or underground vault or passageway.

22.09 **Counterparts.** This Lease may be executed in any number of counterparts, and delivery of any counterpart to the other party may occur by electronic or facsimile transmission; each such counterpart shall be deemed an original instrument, but all such counterparts together shall constitute one agreement. An executed Lease containing the signatures (whether original, faxed or electronic) of all the parties, in any number of counterparts, is binding on the parties.

22.10 **Work Letters and Exhibits**. Any and all work letters and exhibits attached hereto are hereby incorporated in this Lease by reference.

22.11 **Financial Statements.** In the event that Tenant's financial statements are no longer publicly available, Tenant shall, when requested by Landlord from time to time, furnish a true and accurate audited statement of its financial condition prepared in conformity with either generally accepted accounting principles or International Financial Reporting Standards and in a form reasonably satisfactory to Landlord.

22.12 **Relationship of Parties**. Nothing contained in this Lease shall create any relationship between the parties hereto other than that of Landlord and Tenant, and it is acknowledged and agreed that Landlord shall not be deemed to be a partner of Tenant in the conduct of its business, or a joint venturer or a member of a joint or common enterprise with Tenant.

22.13 **Amendments**. This Lease contains and embodies the entire agreement of the parties hereto, and no representation, inducements or agreements, oral or otherwise, not contained in this Lease shall be of any force or effect. This Lease may not be modified in whole or in part in any manner other than by an instrument in writing duly signed by both parties hereto.

22.14 **Irrevocable Offer**. Tenant acknowledges and agrees that by executing and delivering this Lease to Landlord or Landlord's agent Tenant has made an offer to Landlord which offer may not be revoked, altered or modified for a period of ten (10) business days and, thereafter, only if Landlord has failed to countersign a copy of this Lease prior to Landlord's receipt of a written revocation.

22.15 **Bankruptcy.** Landlord and Tenant understand that, notwithstanding certain provisions to the contrary contained herein, a trustee or debtor in possession under the United States Bankruptcy Code ("Code") may have certain rights to assume or assign this Lease. Landlord and Tenant further understand that, in such event, Landlord is entitled under the Code to adequate assurances of future performance of the terms and provisions of this Lease. The parties hereto agree that, with respect to any such assumption or assignment, the term "adequate assurance" shall include at least the following: (1) since the financial condition and resources of Tenant were a material inducement to Landlord in entering into this Lease, in order to assure Landlord that the proposed assignee will have the resources with which to pay all Rent payable pursuant to the terms hereof, any proposed assignee must have, as demonstrated to Landlord's satisfaction, a net worth (as defined in accordance with generally accepted accounting principles consistently applied) of not less than the net worth of Tenant on the date this Lease became effective, increased by seven percent (7%), compounded annually, for each year from the Commencement Date through the date of the proposed assignment; (2) since Landlord's asset will be substantially impaired if the trustee in bankruptcy or any assignee of this Lease makes any use of the Premises other than the Permitted Use, any proposed assignee must have been engaged in the conduct of business for the five (5) years prior to any such proposed assignment, which business does not violate the Permitted Use, and such proposed assignee shall continue to engage in the Permitted Use; and (3) any proposed assignee of this Lease must assume and agree to be personally bound by the terms, covenants and provisions of this Lease.

22.16 **Confidentiality**. Subject to disclosure requirements of Tenant pursuant to federal, state and foreign securities laws, rules and regulations, including the United Kingdom Listing Authority Listing Rules, Landlord and Tenant shall at all times keep the terms and conditions of this Lease confidential and shall not disclose the terms thereof to any third party, except for its respective accountants, attorneys and other professionals who have a legitimate business reason to know the terms of this Lease. Without limitation to the generality of the foregoing, Tenant shall specifically not release any information about lease rates, concessions, options or rights to any current or prospective

tenant or occupant of the Building. Landlord and Tenant hereby acknowledge that the other party may suffer damages in the event of the breach of this paragraph.

22.17 **Construction of Lease**. The language in all parts of this Lease shall in all cases be construed as a whole according to its fair meaning and neither strictly for nor against either Landlord or Tenant. Article and Section headings in this Lease are for convenience only and are not to be construed as part of this Lease or in any way defining, limiting, amplifying, construing, or describing the provisions hereof. Time is of the essence of this Lease and every term, covenant and condition hereof. The words "Landlord" and "Tenant," as herein used, shall include the plural as well as the singular. The neuter gender includes the masculine and feminine. In the event there is more than one person or entity which executes this Lease as Tenant, the obligations to be performed and liability of all such persons and entities shall be joint and several. All of the covenants of Tenant hereunder shall be deemed and construed to be "conditions" as well as "covenants" as though the words specifically expressing or importing conditions were used in each separate instance. Landlord and Tenant agree that in the event any term, covenant or condition herein contained (other than with respect to the payment of Rent) is held to be invalid or void by any court of competent jurisdiction, the invalidity of any such term, covenant or condition shall in no way affect any other term, covenant or condition herein contained.

22.18 **OFAC.** Tenant represents and warrants that, to the best of its knowledge, Tenant and all persons and entities having an ownership interest in Tenant, as well as all guarantors of all or any portion of the Lease: (i) are not, and shall not become, a person or entity with whom Lender is restricted from doing business with under regulations of the Office of Foreign Asset Control ("OFAC") of the Department of the Treasury (including, but not limited to, those named on OFAC's Specially Designated and Blocked Persons list) or under any statute, executive order (including, but not limited to, the September 24, 2001 Executive Order Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten to Commit, or Support Terrorism), or other governmental action; (ii) are not knowingly engaged in, and shall not engage in, any dealings or transaction or be otherwise associated with such persons or entities described in (i) above; and (iii) are not, and shall not become, a person or entity whose activities are regulated by the International Money Laundering Abatement and Financial Anti-Terrorism Act of 2001 or the regulations or orders thereunder.

22.19 **Reservation.** This Lease does not grant any right to light or air over or above the Building. Landlord excepts and reserves exclusively to itself any and all rights not specifically granted to Tenant under this Lease. Notwithstanding anything to the contrary contained in this Lease, Tenant shall not have any right to use the roof of the Building for any purpose without the prior written approval of Landlord. Landlord reserves the right to make changes to the Property, Building and common areas as Landlord deems appropriate, provided the changes do not materially adversely affect Tenant's ability to use the Premises for the Permitted Use. This Lease constitutes the entire agreement between the parties and supersedes all prior agreements and understandings related to the Premises, including all lease proposals, letters of intent and other documents. Neither party is relying upon any warranty, statement or representation not contained in this Lease. This Lease may be modified only by a written agreement signed by an authorized representative of Landlord and Tenant.

22.20 **TENANT'S ACKNOWLEDGEMENTS.** TENANT ACKNOWLEDGES THAT (1) IT HAS INSPECTED AND ACCEPTS THE PREMISES IN AN "AS IS, WHERE IS" CONDITION WITH ALL FAULTS CONDITION, (2) THE BUILDINGS AND IMPROVEMENTS COMPRISING THE SAME ARE SUITABLE FOR THE PURPOSE FOR WHICH THE PREMISES ARE LEASED AND LANDLORD HAS MADE NO WARRANTY, REPRESENTATION, COVENANT, OR AGREEMENT WITH RESPECT TO THE MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF THE PREMISES, (3) THE PREMISES ARE IN GOOD AND SATISFACTORY CONDITION, (4) NO REPRESENTATIONS AS TO THE REPAIR OF THE PREMISES, NOR PROMISES (EXPRESS OR IMPLIED) TO ALTER, REMODEL OR IMPROVE THE BUILDING OR PREMISES OR ANY OTHER PART OF THE LAND HAVE BEEN MADE BY LANDLORD (UNLESS AND EXCEPT AS MAY BE SET FORTH IN THE WORK LETTER ATTACHED TO THIS LEASE, IF ONE SHALL BE ATTACHED, OR AS IS OTHERWISE EXPRESSLY SET FORTH IN THIS LEASE), (5) THERE ARE NO REPRESENTATIONS OR WARRANTIES, EXPRESSED, IMPLIED OR STATUTORY, THAT EXTEND BEYOND THE DESCRIPTION OF THE PREMISES, AND (6) NO RIGHTS, EASEMENTS OR LICENSES ARE

ACQUIRED BY TENANT BY IMPLICATION OR OTHERWISE, EXCEPT AS EXPRESSLY SET FORTH IN THIS LEASE.

22.21 Green Initiatives.

(a) Ratings. Tenant shall cooperate with Landlord in any programs in which Landlord may elect to participate relating to the Building's (i) energy efficiency, management, and conservation; (ii) water conservation and management; (iii) environmental standards and efficiency; (iv) recycling and reduction programs; and/or (v) safety, which participation may include, without limitation, the Leadership in Energy and Environmental Design (LEED) program and related Green Building Rating System promoted by the U.S. Green Building Council, as well as the Energy Star program promoted by the U.S. Environmental Protection Agency and the U.S. Department of Energy.

(b) Recycling and Efforts by Tenant. Tenant shall use best efforts to recycle by separating waste stream into Single Stream (paper, plastic, metals); dispose of all electronic items (cell phones, computers, etc.) in designated bins; and if Landlord elects to do so in the future, dispose of compostable waste appropriately. Tenant shall also use best efforts to help meet building-wide energy use reduction goals and minimize unnecessary use of electricity, water, heating, and air conditioning, including recommended use of window shades and curtains to keep out summer heat and keep in winter warmth. Tenant shall consider using the energy efficiency products buying pool that Landlord has set up and consider Energy Star or comparably efficient appliances for Tenant's Premises. All products used by Tenant in making alterations to the Premises shall be consistent with Building standards for using environmentally friendly and recycled materials.

22.22 IRC. If Landlord is advised by its counsel at any time that any part of the payments by Tenant to Landlord under this Lease may be characterized as other than "rent from real property" under either Section 512(b)(3) of the United States Internal Revenue Code and its regulations (the "Code") or Section 856(d) of the Code or otherwise as unrelated business taxable income under the Code, then Tenant shall enter into any amendment proposed by Landlord to avoid such income, so long as the amendment does not require Tenant to make more payments or accept fewer services from Landlord, than this Lease provides or impose an undue burden on Tenant.

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IN WITNESS WHEREOF, the parties hereto have executed this Lease as of the day and year first above written.

LANDLORD:
SPUS7 HIGH STREET, LP,
a Delaware limited partnership

By:	/s/ Mark Zikakis	1/5/16
Name:	Mark Zikakis	Date
Title:	Vice President	

By:	/s/ Claudia Walraven	1/5/16
Name:	Claudia Walraven	Date
Title:	Assistant Vice President	

TENANT:
ALLIED MINDS, LLC,
a Delaware limited liability company

By:	/s/ Christopher Silva	Witness 1:	/s/ [ILLEGIBLE]
Name:	Christopher Silva		
Title:	CEO		
Date:	12-31-2015	Witness 2:	/s/ [ILLEGIBLE]

TENANT'S WITNESSES:

By:	/s/ Joseph A. Pignato	Witness 1:	/s/ [ILLEGIBLE]
Name:	Joseph A. Pignato		
Title:	CEO		
Date:	12-31-2015	Witness 2:	/s/ [ILLEGIBLE]

RIDER TO LEASE

Landlord and Tenant hereby agree that the following provisions are hereby added to the Lease:

1. **Extension Option**.

(a) Tenant shall have the right and option to extend the Lease for one (1) additional and consecutive period of three (3) years under the same terms and conditions as stated in the Lease ("Extension Option"), with the exceptions that (a) no further extension options shall exist and (b) monthly rental for such extension term shall be based on the then prevailing market rental rate as determined by Landlord in good faith based on then recent lease extensions within the Building and surrounding buildings and taking into consideration Tenant's use and financial strength and other relevant factors, but in no event shall be less than the monthly rental in effect for the last month of the Term immediately prior to the extension ("Market Rental Rate"). Following Tenant's exercise of the Extension Option, Tenant may reject the Extension Option granted herein within ten (10) business days following delivery to Tenant of Landlord's determination of the Market Rental Rate ("Rate Notice"). The Extension Option shall be exercisable by Tenant, if at all, only by timely delivery to Landlord of written notice of election at least twelve (12) months prior to Expiration Date of the Lease. The option herein granted shall be deemed to be personal to Tenant, and if Tenant subleases any portion of the Premises or otherwise assigns or transfers any interest thereof to another party (other than a Permitted Transferee), such option shall lapse. In the event that Tenant is in default of any term or condition at the time of its exercise notice beyond any applicable notice and grace period, then there shall be no extension of the Lease as provided herein.

(b) If Tenant desires to continue with the extension, but objects to the Market Rental Rate determined by Landlord, then Tenant must object to the same within said ten (10) business day period. No later than five (5) business days thereafter, Landlord and Tenant shall meet in an effort to negotiate, in good faith, the Market Rental Rate applicable to the Premises. If Landlord and Tenant have not agreed upon the Market Rental Rate applicable to the Premises within five (5) business days after meeting, then Landlord and Tenant shall each appoint a broker not later than forty-five (45) days following Landlord's delivery of the Rate Notice. If Landlord's broker and Tenant's broker have failed to agree upon the Market Rental Rate within sixty (60) days following delivery of the Rate Notice, the two (2) appointed brokers shall appoint a third broker (within five (5) business days following the expiration of said sixty (60) day period), and the Market Rental Rate shall be the arithmetic average of two (2) of the three (3) determinations which are the closest in amount, and the third determination shall be disregarded. If either Landlord or Tenant fails to appoint a broker within the prescribed time period, the failing party shall pay to the other party as liquidated damages One Hundred Dollars ($100.00) per day for each day following the deadline that such party fails to appoint a broker, not to exceed Five Hundred Dollars ($500.00). If the two (2) appointed brokers fail to agree upon a third broker, then the parties shall have the local office of the American Arbitration Association appoint the third broker and the parties shall share equally in the cost of such arbitration. Each party shall bear the costs of its own broker, and the parties shall share equally the cost of the third broker, if applicable. Each broker shall have at least ten (10) years' experience in the leasing of similar commercial buildings in the submarket in which the Building is located and shall be a licensed real estate broker.

2. **Amenities**. Tenant shall have the right to use the following amenities of the Building: 5-Star Concierge Service, roof deck, conference rooms and gathering rooms within the Building (the "Amenities"), which Amenities Landlord shall make available to Tenant through the Term. Tenant shall have the right to use the Amenities on the same terms generally available to other similarly sized tenants. Notwithstanding the foregoing, the right to use such the Star Center is personal to Tenant and not transferable to any assignee of Tenant's interests in the Lease or subtenant of the Premises, except to a Permitted Transferee. Only on-site employees of Tenant may use the 5 Star Center. Subject to Section 4.04, the cost of operating, maintaining and repairing the 5 Star Center shall be included in Operating Expenses. Qualified Parties shall not be entitled to use the amenities as set forth herein.

3. **Tenant's Security System**. Tenant shall have the right, at Tenant's sole cost and expense, and subject to the terms and conditions of Article 7 of this Lease, to install Tenant's own security system ("Tenant's Security System") within the Premises. Notwithstanding the foregoing, Tenant's Security System must (a) be compatible with all applicable Building systems, and Tenant's Security System shall in no way overload or interfere with any Building systems; (b)

Landlord shall have no obligation to repair Tenant's Security System; (c) Landlord shall have no liability whatsoever with respect to a failure, or the misuse, of Tenant's Security System; (d) Tenant shall provide Landlord with copies of applicable keys, card keys, or codes, as the case may be, so that Landlord can access Tenant's Security System; and, (e) Tenant shall remove Tenant's Security System upon the expiration or sooner termination of this Lease.

4. **Conflict**. In the event of any express conflict or inconsistency between the terms of this Rider and the terms of the Lease, the terms of this Rider shall control and govern.

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EXHIBIT A

FLOOR PLAN OF PREMISES

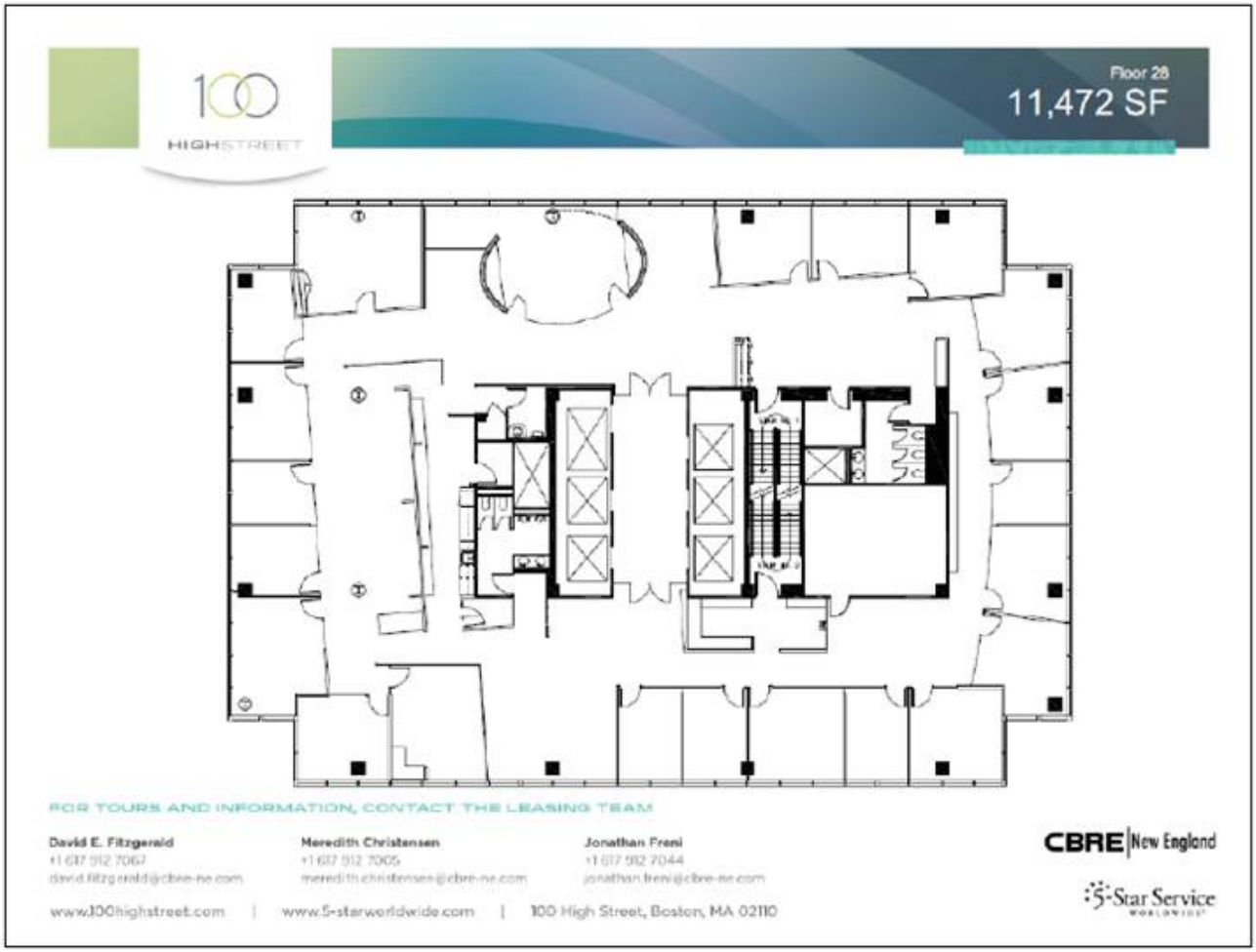

EXHIBIT B

WORK LETTER

This is the Work Letter referred to in and specifically made a part of the Lease to which this **Exhibit B** is annexed, covering the Premises, as more particularly described in the Lease. Landlord and Tenant agree as follows:

1. Defined Terms. The following defined terms shall have the meaning set forth below and, unless provided to the contrary herein, the remaining defined terms shall have the meaning set forth in the Lease:

Landlord's Representative:	To be provided by Landlord as soon as is reasonably practicable after the mutual execution and delivery of this Lease. Landlord has designated Landlord's Representative as its sole representative with respect to the matters set forth in this Work Letter, who shall have full authority and responsibility to act on behalf of Landlord as required in this Work Letter. Landlord shall not change Landlord's Representative except upon notice to Tenant's Representative. Tenant acknowledges that neither Tenant's architect nor any contractor engaged by Tenant is Landlord's agent and neither entity has authority to enter into agreements on Landlord's behalf or otherwise bind Landlord.
Tenant's Representative:	To be provided by Tenant as soon as is reasonably practicable after the mutual execution and delivery of this Lease. Tenant has designated Tenant's Representative as its representative with respect to the matters set forth in this Work Letter, who shall have full authority and responsibility to act on behalf of Tenant as required in this Work Letter. Tenant shall not change Tenant's Representative except upon prior written notice to Landlord's Representative.
Allowance:	The lesser of (a) Four Hundred One Thousand Five Hundred Twenty and No/100ths Dollars ($401,520.00) (i.e., $35.00 per rentable square foot of space in the Premises); or (b) the actual cost of Tenant's Work, as defined below.
Construction Management Fee:	None. Notwithstanding the foregoing, within thirty (30) days after receipt of demand therefor, Tenant shall reimburse Landlord for Landlord's reasonable actual out-of-pocket costs incurred in connection with Tenant's Work (as defined in Section 7 below below).
General Contractor:	To be determined as soon as is reasonably practicable after the mutual execution and delivery of this Lease, subject however to Landlord's approval, which approval will not be unreasonably withheld, conditioned or delayed.

2. Landlord's Work. Tenant accepts the Premises in its current "AS IS" condition and acknowledges that Landlord shall have no obligation to do any work in or on the Premises to render it ready for Tenant's use or occupancy.

3. Tenant Improvements. The "Tenant Improvements" shall mean as determined by Tenant the interior walls, partitions, doors, door hardware, wall coverings, wall base, counters, lighting fixtures, electrical and telephone wiring, cabling for computers, ceilings, floor and window coverings, HVAC system, fire sprinklers system, and other items of general applicability that Tenant desires to be installed in the interior of the Premises. Tenant shall promptly commence and diligently prosecute to full completion Tenant's Work (as defined in Section 7 below below) in accordance with the Drawings. The parties agree that no demolition work or other Tenant's Work shall be commenced on the Premises until such time as Tenant's Representative has provided to Landlord's Representative copies of the demolition and building permits required to be obtained from all applicable governmental authorities and all other conditions precedent have been fully satisfied. All materials, work, installations, equipment and decorations of any nature whatsoever brought on or installed in the Premises before the commencement of the Term or during the Term shall be at Tenant's risk, and neither Landlord nor any party acting on Landlord's behalf shall be responsible for any

damage thereto or loss or destruction thereof due to any reason or cause whatsoever, excluding by reason of Landlord's gross negligence or willful or criminal misconduct.

4. Drawings. Tenant shall engage and pay for the services of a licensed architect to prepare a space layout, drawings and specifications for all Tenant Improvements (the "Drawings"), which architect shall be subject to Landlord's Representative's reasonable approval (the "Architect"); provided, Landlord hereby agrees that Dyer Brown Architects is approved by Landlord. Tenant's Representative shall devote such time in consultation with the Architect as shall be necessary to enable the Architect to develop complete and detailed architectural, mechanical and engineering drawings and specifications, as necessary, for the construction of Tenant Improvements, showing thereon all Tenant Improvements. Tenant hereby acknowledges and agrees that it is Tenant's sole and exclusive responsibility to cause the Premises and the Drawings to comply with all applicable laws, including the Americans with Disabilities Act and other ordinances, orders, rules, regulations and requirements of all governmental authorities having jurisdiction thereof.

5. Landlord's Approval. Tenant's Representative shall submit to Landlord's Representative an electronic PDF copy, electronic CAD copy and hard copy of the complete and final Drawings for Tenant Improvements. The Drawings shall be subject to the approval of Landlord's Representative, which approval shall not be unreasonably withheld or delayed. If Landlord's Representative should disapprove such Drawings, Landlord's Representative shall promptly specify to Tenant's Representative the reasons for its disapproval and Tenant's Representative shall cause the same to be revised to meet the mutual reasonable satisfaction of Landlord's Representative and shall resubmit the same to Landlord's Representative, as so revised.

6. Changes. Tenant's Representative may request reasonable changes in the Drawings following the approval of Landlord's Representative; provided, however, that (a) no material change shall be made to the Drawings without Landlord's Representative's prior written approval, which approval shall not be unreasonably withheld or delayed; (b) no such request shall effect any structural change in the Building or otherwise render the Premises or Building in violation of applicable laws; (c) Tenant shall pay any additional costs required to implement such change, including, without limitation, architecture and other consultant fees, and increases in construction costs; and (d) such requests shall constitute an agreement by Tenant to any delay in completion caused by Landlord's reviewing, and processing such change. If Tenant's Representative requests or causes any change, addition or deletion to the Premises to be necessary after approval of the Drawings, a request for the change shall be submitted to Landlord's Representative, accompanied by revised plans prepared by the Architect, all at Tenant's sole expense.

7. Tenant Improvements. It is understood and agreed by the parties that, as hereinafter set forth, Tenant has elected to retain a General Contractor and arrange for the construction and installation of Tenant Improvements itself in a good and workmanlike manner by labor union contractors and subcontractors ("Tenant's Work"). Tenant's Representative shall submit to Landlord's Representative the names of the General Contractor, electrical, ventilation, plumbing and heating subcontractors (hereinafter "Major Subcontractors"), as applicable, for Landlord's Representative's reasonable approval, which approval shall not be unreasonably withheld or delayed. If Landlord's Representative shall reject any Major Subcontractor, Landlord's Representative shall promptly advise Tenant's Representative of the reason(s) in writing and, Tenant's Representative shall choose another Major Subcontractor.

8. Tenant's Construction of Tenant's Work.

(a) Payment; Liens. Tenant shall promptly pay any and all costs and expenses in connection with or arising out of the performance of Tenant's Work and shall furnish to Landlord's Representative evidence of such payment upon request. Landlord's Representative shall post and serve notices of non-liability in accordance with applicable laws. In the event any lien is filed against the Building or any portion thereof or against Tenant's leasehold interest therein, the provisions of Article 7 of the Lease shall apply.

(b) Indemnity. Tenant shall indemnify, defend (with counsel reasonably satisfactory to Landlord and Tenant) and hold Landlord harmless from and against any and all suits, claims, actions, loss, cost or expense (including claims for workers' compensation, attorneys' fees and costs) based on personal injury or property damage caused in, or contract claims (including, but not limited to claims for breach of warranty) arising from Tenant's Work. Tenant

shall repair or replace (or, at Landlord's election, reimburse Landlord for the cost of repairing or replacing) any portion of the Building or item of Landlord's equipment or any of Landlord's real or personal property damaged, lost or destroyed in the construction of Tenant's Work.

(c) Contractors. The Major Subcontractors employed by Tenant and any subcontractors thereof shall be (i) duly licensed in the state in which the Premises are located, and (ii) except as otherwise approved herein, subject to Landlord's Representative's prior written reasonable approval, which approval shall not be unreasonably withheld or delayed. On or before ten (10) business days prior to the commencement of any construction activity in the Premises, Tenant and Tenant's contractors shall obtain and provide Landlord's Representative with certificates evidencing Workers' Compensation, public liability and property damage insurance in amounts and forms and with companies reasonably satisfactory to Landlord's Representative. If Landlord's Representative should disapprove such insurance, Landlord's Representative shall specify to Tenant's Representative the reasons for its disapproval within five (5) business days after delivery of such certificates. Tenant's agreement with its contractors shall require such contractors to provide daily clean-up of the construction area to the extent such clean-up is necessitated by the construction of Tenant Work, and to take reasonable steps to minimize interference with other tenants' use and occupancy of the Building. Nothing contained herein shall make or constitute Tenant as the agent of Landlord. Tenant and Tenant's contractors shall comply with any other reasonable rules, regulations or requirements that Landlord's Representative may impose.

(d) Use of Common Areas. During the construction period and installation of fixtures period, Tenant shall be allowed to use, at no cost to Tenant, a freight elevator for the purpose of hoisting materials, equipment and personnel to the Premises. Also during the construction period, Tenant shall ensure that the Premises and any portions of the Building and the common areas utilized or accessed by Tenant's contractors in the course of performing Tenant's Work are kept in a clean and safe condition at all times. After hours construction activities by Tenant shall require reimbursement to Landlord for its actual reasonable out-of-pocket costs for after-hours supervision. Further, all construction activities shall be conducted so as to use reasonable efforts to minimize interference with the use and occupancy of the Building by the tenants thereof. Such entry shall be deemed to be under all the terms, covenants, provisions and conditions of the Lease.

(e) Coordination. All work performed by Tenant shall be coordinated with Landlord's Representative. Tenant's Representative shall timely notify and invite Landlord's Representative to all construction meetings (with contractors, engineers, architects and others), and supply all documentation reasonably requested by Landlord's Representative.

(f) Assumption of Risk. All materials, work, installations, equipment and decorations of any nature whatsoever brought on or installed in the Premises pursuant to the provisions of this Work Letter before Tenant occupies the Premises or throughout the Term shall be at Tenant's risk, and neither Landlord nor any party acting on Landlord's behalf shall be responsible for any damage thereto or loss or destruction thereof due to any reason or cause whatsoever, excluding by reason of Landlord or such other party's gross negligence or willful or criminal misconduct.

9. Time Limits. Landlord and Tenant agree that they each desire the Occupancy Date to occur as soon as practicable and shall cooperate to complete and approve the Drawings as soon as reasonably practicable, and in accordance with the time frames set forth below, at which time Tenant shall apply for a building permit for Tenant's Work. Landlord and Tenant understand and agree that time is of the essence hereunder and, at all times, both Landlord and Tenant will act promptly on any construction-related questions or matters. The following maximum time limits and periods shall be allowed for the indicated matters:

Tenant's Representative submits Drawings to Landlord's Representative for review and approval.	On or before 10 business days after the date of mutual execution of this Lease.
Landlord's Representative notifies Tenant's Representative and the Architect of its approval of the	On or before 10 business days after the date of Landlord's Representative's receipt of the

Drawings with any required changes in detail.	Drawings.
Tenant's Representative notifies Landlord's Representative of its selection of Major Subcontractors.	On or before 10 business days after the date of mutual execution of this Lease.
Landlord's Representative approves/disapproves Tenant's Major Subcontractors.	On or before 10 business days after the date of Landlord's Representative's receipt of the list of Major Subcontractors.
If applicable, Landlord's Representative and Tenant's Representative mutually approve the final revised list of Major Subcontractors.	On or before 5 business days after the date of Landlord's Representative's receipt of a revised list of Major Subcontractors.
If applicable, Landlord's Representative and Tenant's Representative mutually approve the final revised Drawings.	On or before 5 business days after the date of Landlord's Representative's receipt of revised Drawings.
Tenant's Representative submits Drawings for building permit, if applicable.	On or after the date Tenant's Representative and Landlord's Representative mutually approve the final, revised Drawings.
Tenant allowed access to the Premises to commence Construction of Tenant Improvements	After providing copies of the building permit(s) and the contractors meeting all of Landlord's Representative's insurance requirements.

Notwithstanding anything to the contrary contained herein, the failure on the part of Landlord or Tenant to meet a Time Limit as set forth above, shall in no event constitute an event of default under the Lease.

Except as may be otherwise specifically provided for herein, in all instances where either Tenant's Representative's or Landlord's Representative's approval is required, if no written notice of disapproval is given within the applicable Time Limit, at the end of such period the applicable party shall be deemed to have given its approval and the next succeeding time period shall commence. Any delay in any of the foregoing dates (including any "re-do", continuation or abatement of any item due to Tenant's Representative's or Landlord's Representative's disapproval thereof) shall automatically delay all subsequent deadlines by a like amount of time.

10. Allowance. Landlord shall contribute to the costs and expenses of all costs for the planning and design of Tenant Improvements, including all permits, licenses and construction fees and constructing Tenant Work in an amount not to exceed the Allowance. If the final costs for Tenant's Work exceed the Allowance, those Excess Costs shall be paid by Tenant. Provided this Lease is in full force and effect and Tenant is not in Default hereunder beyond any applicable notice and grace period, Landlord shall pay the Allowance to Tenant consistent with the terms and conditions of this Section. After Tenant's Work is substantially complete (as provided under Section 11 hereof), Tenant's Representative may submit to Landlord's Representative a request in writing for the Allowance which request shall include: (a) "as-built" drawings showing all of Tenant Improvements, (b) a detailed breakdown of Tenant's final and total construction costs, together with receipted invoices showing payment thereof, (c) a certified, written statement from the Architect that all of Tenant Improvements have been completed in accordance with the Drawings, (d) all required AIA forms, supporting final lien waivers, and releases executed by the Architect, General Contractor, the Major Subcontractors and all subcontractors and suppliers in connection with Tenant Improvements, (e) a copy of a certificate of occupancy or amended certificate of occupancy required with respect to the Premises, if applicable, together with all licenses, certificates, permits and other government authorizations necessary in connection with Tenant Improvements and the operation of Tenant's business from the Premises, and (f) proof reasonably satisfactory to Landlord's Representative that Tenant has complied with all of the conditions set forth in

this Work Letter and has satisfactorily completed the Tenant Improvements, including, at Landlord's Representative's option, a certificate from the General Contractor and Architect after inspection of the Tenant Improvements ("Draw Request"). Upon Landlord's Representative's receipt and approval of the Draw Request, Landlord shall pay the balance of the Allowance to Tenant. Payment by Landlord shall be made within thirty (30) days, unless Landlord's Representative notifies Tenant's Representative, in writing, of its rejection (and the reasons therefor) of any or all of the Draw Request. To the extent Landlord does not so reject any portion of said Draw Request, Landlord shall timely pay such acceptable portion of the Draw Request.

11. Substantial Completion. Tenant Improvements shall be deemed substantially complete when all work called for by the Drawings has been finished and the Premises is ready to be used and occupied by Tenant, even though minor items may remain to be installed, finished or corrected ("Substantial Completion Date" or the "Date of Substantial Completion"). Tenant shall cause the contractors to diligently complete any items of work not completed when the Premises are substantially complete. In the event of any dispute as to substantial completion of Tenant Improvements, the statement of Landlord's construction manager shall be conclusive. Substantial completion shall have occurred notwithstanding punch list items. Promptly after the Substantial Completion Date, the parties will execute an instrument in the form attached hereto as **Exhibit C**, setting forth the Commencement Date of the Lease, so that said date is certain and such instrument, when executed, is hereby made a part of this Lease and incorporated herein by reference. UNDER NO CIRCUMSTANCES SHALL A DELAY IN THE SUBSTANTIAL COMPLETION DATE DELAY THE COMMENCEMENT DATE, RENT OR ANY OTHER APPLICABLE DATES OR OBLIGATIONS OF TENANT.

12. No Representations or Warranties. Notwithstanding anything to the contrary contained in the Lease or herein, Landlord's participation in the preparation of the Drawings, the cost estimates for Tenant and the construction of Tenant Improvements and/or Tenant Improvements shall not constitute any representation or warranty, express or implied, that (i) the Drawings are in conformity with applicable governmental codes, regulations or rules or (ii) Tenant Improvements, if built in accordance with the Drawings, will be suitable for Tenant's intended purpose. Tenant acknowledges and agrees that Tenant Improvements are intended for use by Tenant and the specification and design requirements for such improvements are not within the special knowledge or experience of Landlord. Landlord's obligations shall be to review the Drawings; and any additional cost or expense required for the modification thereof to more adequately meet Tenant's use, whether during or after construction thereof, shall be borne entirely by Tenant.

13. Tenant's Entry Prior to Completion Date. If Tenant shall occupy all or any part of the Premises prior to the Rent Commencement Date, all of the covenants and conditions of this Lease, except for the obligation to pay Rent, shall be binding upon the parties hereto in respect to such occupancy. Pursuant to the terms of this Work Letter, Landlord shall permit Tenant or its agents or laborers to enter the Premises at Tenant's sole risk following the Commencement Date in order to perform through Tenant's own contractors such work as Tenant may desire. The foregoing license to enter, however, is conditioned upon Tenant's labor not interfering with any other tenant or its labor, and such entry shall not cause disharmony, interference or union disputes of any nature. Such entry shall be deemed to be under and subject to all of the terms, covenants and conditions of the Lease, and Tenant shall comply with all of the provisions of the Lease which are the obligations or covenants of Tenant, except that the obligation to pay Rent shall not commence until the Rent Commencement Date. In the event that Tenant's agents or laborers incur any charges from Landlord, including, but not limited to, reasonable charges for use of construction or hoisting equipment on the Building site, such charges shall be deemed an obligation of Tenant and shall be collectible as Rent pursuant to the Lease, and upon default in payment thereof, Landlord shall have the same remedies as for a default in payment of Rent pursuant to the Lease.

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EXHIBIT C

CONFIRMATION OF LEASE TERMS AND DATES

Re: Office Building Lease (the "Lease") dated , 2015 between SPUS7 HIGH STREET, LP, a Delaware limited partnership ("Landlord"), and ALLIED MINDS, LLC, a Delaware limited liability company ("Tenant") for the premises located at 100 High Street, Suite 2800, Boston, Massachusetts 02110 ("Premises")

The undersigned, as Tenant, hereby confirms as of this day of , 2015, the following:

1. The Substantial Completion Date is hereby deemed to be

2. The Commencement Date is hereby deemed to be

3. The Expiration Date is hereby deemed to be:

4. The Occupancy Date is hereby deemed to be:

5. The rent schedule is:

Dates	Annual Base Rent / RSF	Monthly Installment of Base Rent
–	$ 60.50	$ 57,838.00
–	$ 61.50	$ 58,794.00
–	$ 62.50	$ 59,750.00
–	$ 63.50	$ 60,706.00
–	$ 64.50	$ 61,662.00
–	$ 65.50	$ 62,618.00

6. All alterations and improvements required to be performed by Landlord pursuant to the terms of the Lease to prepare the entire Premises for Tenant's initial occupancy have been satisfactorily completed. As of the date hereof, Landlord has fulfilled all of its obligations under the Lease. The Lease is in full force and effect and has not been modified, altered, or amended. There are no defaults by Landlord or offsets or credits against Rent.

TENANT:
ALLIED MINDS, LLC,
a Delaware limited liability company

By: _____
Name: _____
Title: _____

EXHIBIT D

RULES AND REGULATIONS

1. Any sign, lettering, picture, notice, or advertisement installed on or in any part of the Premises and visible from the exterior of the Building, or visible from the exterior of the Premises, shall be installed at Tenant's sole cost and expense, and in such manner, character and style as Landlord may approve in writing. In the event of a violation of the foregoing by Tenant, Landlord may remove the same without any liability and may charge the expense incurred by such removal to Tenant.

2. No awning or other projection shall be attached to the outside walls of the Building. No curtains, blinds, shades, or screens visible from the exterior of the Building or visible from the exterior of the Premises, shall be attached to or hung in, or used in connection with any window or door of the Premises without the prior written consent of Landlord. Such curtains, blinds, shades, screens, or other fixtures must be of a quality, type, design and color, and attached in the manner reasonably approved by Landlord.

3. Tenant, its servants, employees, customers, invitees, and guests shall not obstruct sidewalks, entrances, passages, corridors, vestibules, halls, elevators, or stairways in and about the Building which are used in common with other tenants and their servants, employees, customers, guests, and invitees, and which are not a part of the Premises of Tenant. Tenant shall not place objects against glass partitions or doors or windows which would be unsightly from the Building corridors or from the exterior of the Building and will promptly remove any such objects upon notice from Landlord.

4. Tenant shall not make excessive noises, cause disturbances or vibrations or use or operate any electrical or mechanical devices that emit excessive sound or other waves or disturbances or create obnoxious odors, any of which may be offensive to the other tenants and occupants of the Building, or that would interfere with the operation of any device, equipment, radio, television broadcasting or reception from or within the Building or elsewhere and shall not place or install any projections, antennas, aerials, or similar devices inside or outside of the Premises or on the Building.

5. Tenant shall not waste electricity, water, or air conditioning and shall cooperate fully with Landlord to insure the most effective operation of the Building's heating and air conditioning systems and shall refrain from attempting to adjust any controls other than unlocked room thermostats, if any, installed for Tenant's use. Tenant shall keep corridor doors closed in the ordinary course of business.

6. Tenant assumes full responsibility for protecting its space from theft, robbery, and pilferage, which includes keeping doors locked and other means of entry to the Premises closed and secured after normal business hours.

7. No person or contractor not employed by Landlord shall be used to perform janitorial work, window washing, cleaning, maintenance, repair, or similar work in the Premises without the written consent of Landlord which consent shall not be unreasonably withheld.

8. In no event shall Tenant bring into the Building firearms, inflammables, such as gasoline, kerosene, naphtha and benzine, or explosives, or any other article of intrinsically dangerous nature. If, by reason of the failure of Tenant to comply with the provisions of this subparagraph, any insurance premium for all or any part of the Building shall at any time be increased, Tenant shall make immediate payment of the whole of the increased insurance premium, without waiver of any of Landlord's other rights at law or in equity for Tenant's breach of the Lease.

9. Tenant shall comply with all applicable federal, state, and municipal laws, ordinances, and regulations, and building rules and shall not directly or indirectly make any use of the Premises which may be prohibited by any of the foregoing or which may be dangerous to persons or property or may increase the cost of insurance or require additional insurance coverage.

10. Landlord shall have the right to prohibit any advertising by Tenant which in Landlord's reasonable opinion tends to impair the reputation of the Building or its desirability as a building for office use, and upon written notice from Landlord, Tenant shall refrain from or discontinue such advertising.

11. The Premises shall not be used for cooking, lodging, sleeping, or for any immoral or illegal purpose, except that Tenant shall have the right to operate microwave ovens and coffee makers exclusively for the benefit of its employees.

12. Tenant and Tenant's servants, employees, agents, visitors, and licensees shall observe faithfully and comply strictly with the foregoing rules and regulations and such other and further appropriate rules and regulations as Landlord or Landlord's agent may from time to time adopt. Reasonable notice of any additional reasonable and nondiscriminatory rules and regulations shall be given in such manner as Landlord may reasonably elect.

13. Unless expressly permitted by the Landlord, no additional locks or similar devices shall be attached to any door or window and no keys other than those provided by the Landlord shall be made for any door. If additional keys are required by the Tenant after Tenant's initial occupancy, the Landlord may provide the same upon payment by the Tenant. Upon termination of the Lease or of the Tenant's possession, the Tenant shall surrender all keys of the Premises and shall explain to the Landlord all combination locks on safes, cabinets and vaults.

14. Any carpeting cemented down by Tenant shall be installed with a releasable adhesive. In the event of a violation of the foregoing by Tenant, Landlord may charge the expense incurred by such removal to Tenant.

15. The water and wash closets, drinking fountains, and other plumbing fixtures shall not be used for any purpose other than those for which they were constructed, and no sweepings, rubbish, rags, coffee grounds, or other substances shall be thrown therein. All damages resulting from any misuse of the fixtures shall be borne by the Tenant who, or whose servants, employees, agents, visitors, or licensees shall have caused the same. No person shall waste water by interfering or tampering with the faucets or otherwise.

16. No electric circuits for any purpose shall be brought into the leased Premises without Landlord's written permission specifying the manner in which same may be done.

17. No bicycle or other vehicle, and no dog or other animal (other than guide dogs for sightless people) shall be allowed in offices, halls, corridors, or elsewhere in the building, except as required by law.

18. Tenant shall not throw anything out of the door or windows, or down any passageways or elevator shafts.

19. All loading, unloading, receiving, or delivery of goods or supplies, or disposal of garbage or refuse shall be made only through entryways and freight elevators provided for such purposes and indicated by Landlord. Tenant shall be responsible for any damage to the building or the property of its employees or others and injuries sustained by any person whomsoever resulting from the use or moving of such articles in or out of the Premises, and shall make all repairs and improvements required by Landlord or governmental authorities in connection with the use or moving of such articles.

20. All safes, equipment, or other heavy articles shall be carried in or out of the Premises only at such time and in such manner as shall be prescribed in writing by Landlord, and Landlord shall in all cases have the right to specify the proper position of any such safe, equipment, or other heavy article, which shall only be used by Tenant in a manner which will not interfere with or cause damage to the Premises or the Building in which they are located, or to the other tenants or occupants of said Building. Tenant shall be responsible for any damage to the Building or the property of its employees or others and injuries sustained by any person whomsoever resulting from the use or moving of such articles in or out of the Premises, and shall make all repairs and improvements required by Landlord or governmental authorities in connection with the use or moving of such articles.

21. Canvassing, soliciting, and peddling in the Building is prohibited and each Tenant shall cooperate to prevent the same.

22. Vending machines shall not be installed without permission of the Landlord, except for those vending machines used exclusively by Tenant's employees.

23. Wherever in these Building Rules and Regulations the word "Tenant" occurs, it is understood and agreed that it shall mean Tenant's associates, agents, clerks, servants, and visitors. Wherever the word "Landlord" occurs, it is understood and agreed that it shall mean Landlord's assigns, agents, clerks, servants, and visitors.

24. Upon notice to Tenant as provided in the Lease, Landlord shall have the right to enter upon the Premises at all reasonable hours for the purpose of inspecting the same.

25. Upon notice to Tenant as provided in the Lease, Landlord shall have the right to enter the Premises at hours convenient to the Tenant for the purpose of exhibiting the same to prospective tenants within the one year period prior to the expiration of the Lease.

26. At all times the Building shall be in charge of Landlord's employee in charge and (a) persons may enter the Building only in accordance with Landlord's regulations, (b) persons entering or departing from the Building may be questioned as to their business in the Building, and the right is reserved to require the use of an identification card or other access device and the registering of such persons as to the hour of entry and departure, nature of visit, and other information deemed necessary for the protection of the Building, and (c) all entries into and departures from the Building will take place through such one or more entrances as Landlord shall from time to time designate; provided, however, anything herein to the contrary notwithstanding, Landlord shall not be liable for any lack of security in respect to the Building whatsoever. Landlord will normally not enforce clauses (a), (b), and (c) above from 7:00 a.m. to 6:00 p.m., Monday through Friday, and from 8:00 a.m. to 1:00 p.m. on Saturdays, but it reserves the right to do so or not to do so at any time at its sole discretion. In case of invasions, mob, riot, public excitement, or other commotion, Landlord reserves the right to prevent access to the Building during the continuance of the same by closing the doors

or otherwise, for the safety of the tenants or the protection of the Building and the property therein. Landlord shall in no case be liable for damages for any error or other action taken with regard to the admission to or exclusion from the Building of any person.

27. All entrance doors to the Premises shall be locked when the Premises is not in use. All corridor doors shall also be closed during times when the air conditioning equipment in the Building is operating so as not to dissipate the effectiveness of the system or place an overload thereon.

28. Landlord reserves the right at any time and from time to time to rescind, alter, or waive, in whole or in part, any of these Rules and Regulations when it is deemed necessary, desirable, or proper, in Landlord's reasonable judgment, for its best interest or for the best interest of the tenants of the Building subject to the terms hereof.

29. Tenant, its servants, employees, customers, invitees, and guests shall not smoke in the Building.

30. Tenant may install a Wireless Fidelity Network (or similar system) ("Wi-Fi Network") for intranet, internet, or communications purposes within its Premises. Such Wi-Fi Network may not interfere with the use of any other space within the Building. Should any interference occur, Tenant shall take all necessary steps as soon as commercially practicable and no later than three (3) calendar days following discovery of such occurrence to correct such interference. Tenant acknowledges that Landlord has granted and/or may grant leases, licenses and/or other rights to other tenants and occupants of the Building and to telecommunication service providers.

31. Tenant shall reasonably cooperate with Landlord in any programs in which Landlord may elect to participate relating to the Building's (i) energy efficiency, management, and conservation; (ii) water conservation and management; (iii) environmental standards and efficiency; (iv) recycling and reduction programs; and/or (v) safety, which participation may include, without limitation, the Leadership in Energy and Environmental Design (LEED) program and related Green Building Rating System promoted by the U.S. Green Building Council, as well as the Energy Star program promoted by the U.S. Environmental Protection Agency and the U.S. Department of Energy.

32. At all times during the Term of the Lease, Tenant shall ensure that all wiring and cabling that it installs within the Premises or Building complies with all provisions of local fire and safety codes, as well as with the National Electric Code. Further, upon the expiration or sooner termination of the Term, Tenant shall remove all wiring and cabling within the Premises and the Building (including the plenums, risers and rooftop) placed there by or at the direction of Tenant, unless excused in writing by Landlord.

33. Tenant will ensure that all deliveries to the Premises are coordinated with property management and made through such entrances, elevators and corridors and at such times as may from time to time be designated by Landlord. Such deliveries may not be made through any of the main entrances to the Building with Landlord's prior permission. Tenant will use or cause to be used, in the Building, hand trucks or other conveyances equipped with rubber tires and rubber side guards to prevent damage to the Building or property in the Building. Tenant will promptly pay Landlord the cost of repairing any damage to the Building caused by any person making deliveries to the Premises.

34. Tenant will ensure that furniture and equipment and other bulky matter being moved to or from the Premises are moved through such entrances, elevators and corridors and at such times as may from time to time be designated by Landlord, and by movers or a moving company reasonably approved by Landlord. Tenant will promptly pay Landlord the cost of repairing any damage to the Building caused by any person moving any such furniture, equipment or matter to or from the Premises.

35. Tenant requirements and requests for services or work will be considered only following written application to property management. Building employees shall not be requested to perform, and shall not be requested by any tenant to perform, any work outside of regular duties, unless under specific instructions from Landlord.

36. No weapons, including firearms, are allowed in the common areas or within the Premises.

37. All vendors, suppliers, workers, service providers, movers and delivery personnel entering the Building at the request of Tenant or its agents must satisfy the Building's insurance requirements.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

EXHIBIT E

LEASE ESTOPPEL CERTIFICATE

Landlord:	SPUS7 HIGH STREET, LP, a Delaware limited partnership
Tenant:	ALLIED MINDS, LLC, a Delaware limited liability company
Premises:	100 High Street, Suite 2800, Boston, Massachusetts 02110
Area:	Approximately 11,472 Rentable Square Feet
Lease Date:	

The undersigned Landlord and Tenant of the above-referenced lease (the "Lease") hereby ratify the Lease and certify to Lender as mortgagee of the Real Property of which the premises demised under the Lease (the "Premises") is a part, as follows:

That the term of the Lease commenced on , 20 and Tenant is in full and complete possession of the Premises demised under the Lease and has commenced full occupancy and use of the Premises, such possession having been delivered by the original landlord and having been accepted by Tenant.

That the Lease calls for monthly rent installments of $ which Tenant last paid on the day of , 20 .

That no advance rental or other payment has been made in connection with the Lease, except rental for the current month, there is no "free rent" or other concession under the remaining term of the Lease and the rent has been paid to and including , 20 .

That a security deposit in the amount of $ is being held by Landlord, which amount is not subject to any set-off or reduction or to any increase for interest or other credit due to Tenant.

That, to Tenant's knowledge, all obligations and conditions under said Lease to be performed to date by Landlord or Tenant have been satisfied, free of defenses and set-offs including all construction work in the Premises.

That, to Tenant's knowledge, the Lease is a valid lease and in full force and effect and represents the entire agreement between the parties; that there is no existing default on the part of Landlord or Tenant in any of the terms and conditions thereof and no event has occurred which, with the passing of time or giving of notice or both, would constitute an event of default; and that said Lease has: (initial one)

( ) not been amended, modified, supplemented, extended, renewed or assigned.

( ) been amended, modified, supplemented, extended, renewed or assigned as follows by the following described agreements:

The Lease term will expire on , and there are renewal options. Tenant has no purchase options or rights of first refusal under the Lease to purchase the Building. Tenant has no rights of first offer or first refusal or other right to lease additional space in the Building. Tenant has no cancellation rights (except with respect to Landlord's default or casualty or condemnation) under the Lease.

That Landlord has not rebated, reduced or waived any amounts due from Tenant under the Lease, either orally or in writing, nor has Landlord provided financing for, made loans or advances to, or invested in the business of Tenant other than the Allowance.

That, to Tenant's knowledge, there is no apparent or likely contamination of the Real Property or the Premises by Hazardous Materials, and Tenant does not use, nor has Tenant disposed of, Hazardous Materials except for storage and use of cleaning and office supplies in the ordinary course of Tenant's business, and in compliance with all applicable laws, and Tenant does not use, nor has Tenant disposed of, Hazardous Materials in violation of Environmental Laws on the Real Property or the Premises.

Additional rent for operating, maintenance, repair expenses, property taxes and assessments and other such expenses and charges (collectively, the "Operating Expenses") is payable as provided in the Lease and has been paid in accordance with Landlord's rendered bills through .

Tenant is required to pay percent (%) of all Operating Expenses. The next payment of estimated Operating Expenses is due on in the amount of $.

That there are no actions, voluntary or involuntary, pending against Tenant under the bankruptcy laws of the United States or any state thereof.

That this certification is made knowing that Lender is relying upon the representations herein made.

TENANT:
ALLIED MINDS, LLC,
a Delaware limited liability company

TENANT'S WITNESSES:

By: _____
Name: _____
Title: _____
Date: _____

Witness 1: _____

Witness 2: _____

Exhibit B

Furniture

Office furniture located on the Premises as of the Sublease Commencement Date, which includes those items shown on the "Allied Minds — Furniture Inventory" attached hereto.

Exhibit C

Letter of Credit Requirements

The Letter of Credit (i) shall be irrevocable and shall be issued by a commercial bank that has a financial condition reasonably acceptable to Sublandlord and has an office in Boston, Massachusetts that accepts requests for draws on the Letter of Credit, (ii) shall require only the presentation to the issuer of a certificate of the holder of the Letter of Credit stating that Sublandlord is entitled to draw on the Letter of Credit pursuant to the terms of the Sublease, (iii) shall be payable to Sublandlord or its successors in interest as the Sublandlord and shall be freely transferable without cost to any such successor or any lender holding a collateral assignment of Sublandlord's interest in the Sublease, (iv) shall be for an initial term of not less than one year and contain a provision that such term shall be automatically renewed for successive one-year periods unless the issuer shall, at least forty five (45) days prior to the scheduled expiration date, give Sublandlord notice of such nonrenewal, and (v) shall otherwise be in form and substance reasonably acceptable to Sublandlord. Notwithstanding the foregoing, the term of the Letter of Credit for the final period shall be for a term ending not earlier than the date forty five (45) days after the last day of the Sublease Term. In the event that the issuer ceases to be reasonably acceptable to Sublandlord, due to a deterioration in its financial condition or change in status that threatens to compromise Sublandlord's ability to draw on the Letter of Credit as determined in good faith by Sublandlord, then Subtenant shall provide a replacement Letter of Credit from an issuer satisfying the terms of this Exhibit within thirty (30) days after Sublandlord's written notice of such event. Capitalized terms used but not defined herein shall have the meanings given in the Sublease.

Sublandlord shall be entitled to draw upon the Letter of Credit for its full amount or any portion thereof if (a) a Sublease Default occurs under the Sublease, and for so long thereafter as such Sublease Default remains uncured, or (b) not less than thirty (30) days before the scheduled expiration of the Letter of Credit, Subtenant has not delivered to Sublandlord a new Letter of Credit in accordance with this Exhibit or amendment extending the term of the Letter of Credit. Without limiting the generality of the foregoing, Sublandlord may, but shall not be obligated to, draw on the Letter of Credit from time to time in the event of a bankruptcy filing by or against Subtenant and/or to compensate Sublandlord, in such order as Sublandlord may determine, for all or any part of any unpaid rent, any damages arising from any termination of the Sublease in accordance with the terms of the Sublease, and/or any damages arising from any rejection of the Sublease in a bankruptcy proceeding commenced by or against Subtenant. Sublandlord shall only draw and apply the amount so drawn to the extent reasonably necessary to cure the Sublease Default.

Any amount of the Letter of Credit drawn in excess of the amount reasonably necessary to so cure any such Sublease Default shall be held by Sublandlord as a cash security deposit for the performance by Subtenant of its obligations under the Sublease. Any cash security deposit may be mingled with other funds of Sublandlord and no fiduciary relationship shall be created with respect to such deposit, nor shall Sublandlord be liable to pay Subtenant interest thereon. If a Sublease Default occurs, Sublandlord may, but shall not be obliged to, apply the cash security deposit to the extent reasonably necessary to cure the same. After any such application by Sublandlord of the Letter of Credit or cash security deposit, as the case may be, Subtenant shall reinstate the Letter of Credit to the amount originally required to be maintained under the Sublease, upon demand. Provided that Subtenant is not then in default under the Sublease, and no condition exists or event has occurred which after the expiration of any applicable notice or cure period would constitute such a default, within forty five (45) days after the later to occur of (i) the payment of the final Sublease Rent due from Subtenant or (ii) the later to occur of the Sublease Expiration Date or the date on which Subtenant surrenders the Subleased Premises to Sublandlord as required in the Sublease, the Letter of Credit and any cash security deposit, to the extent not applied, shall be returned to the Subtenant, without interest.

Subtenant further covenants that it will not assign or encumber or attempt to assign or encumber the Letter of Credit or the monies deposited herein as security, and that neither Sublandlord nor its successors or assigns shall be bound by any assignment, encumbrance, attempted assignment or attempted encumbrance.

EXHIBIT D

Form of Letter of Credit

[SEE ATTACHED]

STANDBY LETTER OF CREDIT

DRAFT of Standby Letter of Credit

Draft for discussion purposes only

begin format

BENEFICIARY:
BENEFICIARY
BENEFICIARY
BENEFICIARY
BENEFICIARY

Letter of Credit number: 2010100000XX
Date: xx/xx/xx

Attn: Building Manager

Ladies and Gentlemen:

At the request and for the account of APPLICANT NAME AND ADDRESS, we hereby establish our standby letter of credit number 2010100000XX in your favor in the amount of U.S. dollars and cents (USD) (hereinafter the "maximum amount") available with us at our office listed below, by payment of your draft(s) drawn on us at sight accompanied by the following:

1. The original of this letter of credit and all amendments (if any).

2. Statement purportedly signed by the beneficiary stating the following: "This demand is pursuant to the lease dated xx/xx/xx by and between the applicant and the beneficiary."

Partial drawings under this letter of credit are permitted. We shall, after each presentation of this letter of credit, return the same to you, making this letter of credit to show the amount paid by us and the date of such payment.

Each draft must be marked "Drawn under Pacific Western Bank Letter of Credit number 2010100000XX."

This letter of credit expires at our office listed below at 5 p.m. eastern time on .

Notwithstanding the foregoing, this letter of credit shall be automatically extended for a period of one year unless at least thirty (30) calendar days prior to any expiration date we have sent written notice to your above address by courier that we elect not to renew this letter of credit for such additional period. **In any event, this letter of credit will not be extended beyond FINAL EXPIRY DATE.**

Notwithstanding any provision herein to the contrary, our aggregate obligation to honor such drafts shall not exceed the maximum amount, as reduced by prior draws or automatic reductions hereunder.

If any instructions accompanying a drawing under this letter of credit request that payment is to be made by transfer to an account with us or at another bank, we and/or such other bank may rely on an account number specified in such instructions even if the number identifies a person or entity different from the intended payee.

This Letter of Credit is transferable one or more times, but in each instance to a single transferee and only in the full amount available to be drawn under the Letter of Credit at the time of such transfer. Any such transfer may be effected only through ourselves and only upon presentation to us at our below-specified office of a duly executed instrument of transfer in the format attached hereto as Exhibit A together with the original of this letter of credit. Each transfer shall be evidenced by our endorsement on the reverse of the original of this letter of credit, and we shall deliver the original of this letter of credit so endorsed to the transferee. Without prejudice to the foregoing, such transfer shall be permitted without our approval, provided that such transfer is not in favor of any person or entity identified on a then-current list of specially Designated Nationals and Blocked Persons provided by the Office of Foreign Assets Control of the U.S. Department of the Treasury. All charges in connection with any transfer under this letter of credit shall be paid by the beneficiary at the time written notice of a transfer is submitted.

This letter of credit shall be promptly surrendered to us by you (or any subsequent transferee) upon expiration.

Except so far as otherwise expressly stated, this documentary credit is subject to Uniform Customs and Practice for Documentary Credits, 2007 revision, International Chamber of Commerce Publication No. 600.

We engage with you that each draft drawn under and in compliance with the terms of this letter of credit will be duly honored on delivery of the specified documents, if presented at this office during regular business hours: 475 Fifth Avenue, 18th Floor, New York, N.Y. 10017 Attn:Trade Finance Dept.

Very truly yours,

Pacific Western Bank

end format

Agreed to and accepted by:

_____

APPLICANT

Exhibit 31.1

CERTIFICATION

I, Jill C. Milne, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Catabasis Pharmaceuticals, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations, and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize, and report financial information; and
   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 7, 2019

/s/ JILL C. MILNE, PH.D.
Jill C. Milne, Ph.D.
President, Chief Executive Officer (Principal Executive Officer and Principal Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Catabasis Pharmaceuticals, Inc. (the "Company") for the period ended September 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned officers of the Company hereby certify, pursuant to 18 U.S.C. Section 1350, that:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 7, 2019

/s/ JILL C. MILNE, PH.D.
Jill C. Milne, Ph.D.
President, Chief Executive Officer (Principal Executive Officer and Principal Financial Officer)