ACHAOGEN INC

FORM 10-Q
(Quarterly Report)

Filed 11/08/17 for the Period Ending 09/30/17

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CIK	0001301501
Symbol	AKAO
SIC Code	2834 - Pharmaceutical Preparations
Industry	Biotechnology & Medical Research
Sector	Healthcare
Fiscal Year	12/31

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2017

or

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

For the transition period from _____to _____

Commission File Number: 001-36323

ACHAOGEN, INC.
(Exact name of registrant as specified in its charter)

Delaware	**68-0533693**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

1 Tower Place, Suite 300
South San Francisco, CA
(Address of principal executive offices)

94080
(Zip Code)

(650) 800-3636
(Registrant's telephone number, including area code)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes ☒ No ☐

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

Large accelerated filer	☐	Accelerated filer	☒
Non-accelerated filer	☐ (Do not check if a smaller reporting company)	Smaller reporting company	☐
		Emerging growth company	☒

If an emerging growth company, indicate by check mark if registrant has elected not to use the extended transition period for complying with any new or reviewed accounting standards provided pursuant to Section 13(a) of the Exchange Act ☒

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

As of November 2, 2017, there were 42,393,609 shares of the registrant's common stock, par value $0.001 per share, outstanding.

ACHAOGEN, INC.

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PART I—FINANCI AL INFORMATION

Item 1. Financial Statements.

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

	September 30, 2017 (unaudited)	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$ 134,657	$ 118,964
Short-term investments	64,744	26,912
Contracts receivable	240	12,151
Prepaids and other current assets	6,245	2,189
Restricted cash	7,380	127
Total current assets	213,266	160,343
Property and equipment, net	12,972	3,261
Restricted cash	3,855	250
Deposit and other assets	—	71
Total assets	$ 230,093	$ 163,925
Liabilities, contingently redeemable common stock and stockholders' equity		
Current liabilities:		
Accounts payable	$ 5,820	$ 5,739
Accrued liabilities	9,468	9,698
Loan payable, current portion	12,500	4,167
Deferred revenue	2,708	—
Other current liabilities	—	104
Total current liabilities	30,496	19,708
Loan payable, long-term	12,374	21,110
Warrant liability	15,681	13,874
Derivative liability	664	602
Deferred rent	7,596	1,896
Total liabilities	66,811	57,190
Commitments and contingencies (Note 10)		
Contingently redeemable common stock (Note 9)	10,000	—
Stockholders' equity		
Common stock, $0.001 par value, 290,000,000 shares authorized at September 30, 2017 and December 31, 2016; 42,360,929 and 35,638,052 shares issued and outstanding at September 30, 2017 and December 31, 2016, respectively	42	35
Preferred stock, $0.001 par value, 10,000,000 shares authorized and zero shares issued and outstanding at September 30, 2017 and December 31, 2016	—	—
Additional paid-in-capital	489,704	353,927
Accumulated deficit	(336,455)	(247,220)
Accumulated other comprehensive loss	(9)	(7)
Total stockholders' equity	153,282	106,735
Total liabilities, contingently redeemable common stock and stockholders' equity	$ 230,093	$ 163,925

See accompanying notes to condensed consolidated financial statements.

Achaogen, 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,	
	2017	2016	2017	2016
Contract revenue	$ 577	$ 16,046	$ 9,306	$ 31,039
Operating expenses				
Research and development	25,316	20,536	66,113	56,137
General and administrative	11,805	4,460	27,415	12,188
Total operating expenses	37,121	24,996	93,528	68,325
Loss from operations	(36,544)	(8,950)	(84,222)	(37,286)
Interest expense	(740)	(670)	(2,170)	(1,555)
Change in warrant and derivative liabilities	6,773	(1,499)	(3,957)	(2,881)
Other income, net	604	81	1,114	219
Net loss	$ (29,907)	$ (11,038)	$ (89,235)	$ (41,503)
Net loss per common share (Note 2):				
Basic	$ (0.71)	$ (0.41)	$ (2.31)	$ (1.88)
Diluted	$ (0.85)	$ (0.41)	$ (2.31)	$ (1.88)
Weighted-average shares used to compute net loss per common share				
Basic	42,259,001	26,789,397	38,709,811	22,046,368
Diluted	43,211,059	26,789,397	38,709,811	22,046,368

See accompanying notes to condensed consolidated financial statements.

Achaogen, Inc.
Condensed Consolidated Statements of Comprehensive Loss
(In thousands)
(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Net loss	$ (29,907)	$ (11,038)	$ (89,235)	$ (41,503)
Other comprehensive (loss) income:				
Net unrealized gain (loss) on available-for-sale securities	33	(13)	(2)	40
Total comprehensive loss	$ (29,874)	$ (11,051)	$ (89,237)	$ (41,463)

See accompanying notes to condensed consolidated financial statements.

Achaogen, Inc.
Condensed Consolidated Statements of Cash Flows
(In thousands)
(unaudited)

	Nine Months Ended September 30,	
	2017	2016
Cash flows from operating activities:		
Net loss	$ (89,235)	$ (41,503)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	851	333
Amortization of (discount) premium on short-term investments	(144)	278
Stock-based compensation expense	10,297	2,726
Loss on fixed asset disposition	54	—
Change in warrant and derivative liabilities	3,958	2,881
Non-cash interest expense relating to notes payable	639	481
Change in operating assets and liabilities:		
Contracts receivable	11,911	(9,854)
Prepaids and other assets	(3,985)	(340)
Accounts payable and accrued liabilities	(752)	10,062
Deferred revenue	2,708	—
Other liabilities	860	(60)
Net cash used in operating activities	(62,838)	(34,996)
Cash flows from investing activities:		
Purchase of property and equipment	(5,277)	(434)
Purchase of short-term investments	(121,796)	(19,311)
Maturities of short-term investments	84,106	38,230
Net cash (used in) provided by investing activities	(42,967)	18,485
Cash flows from financing activities:		
Proceeds from underwritten public offering, net of issuance costs	121,192	—
Proceeds from issuance of contingently redeemable common stock, net of issuance costs	10,000	—
Proceeds from issuance of common stock and warrants, net of issuance costs	—	28,095
Proceeds from the issuance of common stock in connection with equity incentive plans	1,789	181
Proceeds from issuance of loan payable	—	10,000
Proceeds from exercise of stock warrants	417	—
Repayment of loan payable	(1,042)	—
Net cash provided by financing activities	132,356	38,276
Net increase in cash, cash equivalents, and restricted cash	26,551	21,765
Cash, cash equivalents, and restricted cash at beginning of period	119,341	20,414
Cash, cash equivalents, and restricted cash at end of period	$ 145,892	$ 42,179
Supplemental disclosures of cash flow information		
Interest paid	$ 1,531	$ 1,074
Supplemental disclosures of noncash investing and financing information		
Reclassification of warrant liability to additional paid-in capital	$ 2,089	$ —
Purchases of property plant and equipment included in deferred rent	$ 4,736	$ —

See accompanying notes to condensed consolidated financial statements.

1. Organization and Basis of Presentation and Consolidation

Achaogen, Inc. (together with its consolidated subsidiary, the "Company") is a late-stage biopharmaceutical company passionately committed to the discovery, development, and commercialization of novel antibacterial treatments against multi-drug resistant gram-negative infections.

The Company is developing plazomicin, its lead product candidate, for the treatment of bacterial infections due to multi-drug resistant Enterobacteriaceae, including carbapenem-resistant Enterobacteriaceae ("CRE"). The Company's Phase 3 study of plazomicin in the treatment of patients with complicated urinary tract infections ("cUTI") and acute pyelonephritis ("AP"), entitled EPIC (Evaluating Plazomicin In cUTI), is expected to serve as a single pivotal study required to support a new drug application ("NDA") for plazomicin in the United States, which was submitted in October 2017. In addition, the Company's Phase 3 study of plazomicin, the CARE (Combating Antibiotic Resistant Enterobacteriaceae) trial, is a resistant pathogen-specific trial designed to evaluate the efficacy and safety of plazomicin in patients with infections due to CRE.

The Company is also developing an orally-available antibacterial candidate, C-Scape, a combination of an approved β-lactam and an approved β-lactamase inhibitor to address a serious unmet need for an effective oral treatment for patients with cUTI, including AP, caused by ESBL-producing Enterobacteriaceae. The Company began a Phase 1 study of C-Scape in the second quarter of 2017. In the event the Phase 1 trial is successful, the Company intends to initiate a single pivotal Phase 3 study in patients with cUTI, including AP, who are suitable for treatment with oral antibiotics, in 2018.

The Company was incorporated in Delaware in 2002 and commenced operations in 2004. Since commencing operations in 2004, the Company has devoted substantially all its resources to identifying and developing its product candidates, including conducting preclinical studies and clinical trials and providing general and administrative support for these operations.

Reclassifications

The cash and cash equivalents on the condensed consolidated statements of cash flows for the nine-month period ended September 30, 2016 has been reclassified to include restricted cash to conform to the current period's presentation. Such reclassifications did not impact the Company's net loss or financial position.

Basis of Presentation and Consolidation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP") and the requirements of the Securities and Exchange Commission (the "SEC") for interim reporting. As permitted under those rules, certain footnotes or other financial information that are normally required by U.S. GAAP can be condensed or omitted. These financial statements have been prepared on the same basis as the Company's annual financial statements and, in the opinion of management, reflect all adjustments, consisting only of normal recurring adjustments, which are necessary for a fair statement of the Company's financial information. The results of operations for the three-month and nine-month periods ended September 30, 2017 are not necessarily indicative of the results to be expected for the full year or any other future period. The balance sheet as of December 31, 2016 has been derived from audited consolidated financial statements at that date but does not include all of the information required by U.S. GAAP for complete financial statements. Intercompany accounts and transactions have been eliminated upon consolidation.

The accompanying condensed consolidated financial statements and related financial information should be read in conjunction with the audited consolidated financial statements and the related notes thereto for the year ended December 31, 2016 included in the Company's Annual Report on Form 10-K.

Liquidity and Going Concern

In September 2017, the Company was awarded a contract ("C-Scape Contract") valued at up to $18.0 million in grant funding from the Biomedical Advanced Research and Development Authority ("BARDA") to support the development of C-Scape. The C-Scape Contract includes a base period with committed funding of $12.0 million and subsequent option periods that, if exercised, would bring the total value of the award to $18.0 million.

On May 31, 2017, the Company completed an underwritten public offering of 5,750,000 shares of its common stock at a price to the public of $22.50 per share, including the closing of the full exercise of the underwriters' option to purchase an additional 750,000

shares of common stock on June 9, 2017. The Company received net proceeds from the offering of $121.2 million, after deducting the underwriting discounts and commissions and offering expenses.

On May 4, 2017, the Company entered into an agreement with the Bill & Melinda Gates Foundation (the "Gates Foundation") to discover drug candidates against gram-negative bacterial pathogens intended to prevent neonatal sepsis (the "Grant Agreement"). Pursuant to the Grant Agreement, the Gates Foundation awarded the Company up to approximately $10.5 million in grant funding ("Grant Funds") over a three-year research term, of which approximately $3.2 million was received in May 2017 (the "Advance Funds"). Concurrently with the Grant Agreement, the Company entered into a Common Stock Purchase Agreement (the "Gates Purchase Agreement") with the Gates Foundation, pursuant to which the Company agreed to sell 407,331 shares of its contingently redeemable common stock to the Gates Foundation in a private placement at a purchase price per share equal to $24.55, for gross proceeds to the Company of $10.0 million ("Gates Investment").

In connection with the Grant Agreement and the Gates Investment, the Company entered into a strategic relationship with the Gates Foundation (the "Letter Agreement"). Under the terms of the Letter Agreement, the Gates Investment and Grant Funds may only be used to conduct mutually agreed upon work, including the scale up of the Company's antibody platform technology to launch a product intended to prevent neonatal sepsis (the "NSP"). Pursuant to the Letter Agreement, the Company agreed to make the NSP available and accessible in certain developing countries and to grant the Gates Foundation a non-exclusive license to commercialize selected drug candidates in certain developing countries, which may only be exercised in the event of certain defaults as described in the Letter Agreement (the "Global Access Commitments"). The Global Access Commitments will continue in effect until the earlier of 25 years from the closing of the Gates Investment or 7 years following the termination of all funding provided by the Gates Foundation; provided, that the Global Access Commitments will continue for any products or services developed with funding provided by the Gates Foundation which continue to be developed or available in certain developing countries.

The Company has incurred losses and negative cash flows from operations every year since its inception. As of September 30, 2017, the Company had unrestricted cash, cash equivalents and short-term investments of approximately $199.4 million and an accumulated deficit of approximately $336.5 million. Management expects that, based on its current operating plans, the Company's existing cash, cash equivalents and short-term investments as of September 30, 2017 will be sufficient to fund its current planned operations for at least the next twelve months from the issuance of these financial statements. Management plans to raise additional funds through equity or debt financing arrangements, government contracts, and/or third party collaboration funding in the future to fund its operations, including the commercial development of plazomicin. However, there can be no assurance that such funding sources will be available at terms acceptable to the Company or at all. If the Company is unable to raise additional funding to meet its working capital needs, it will be forced to delay or reduce the scope of its research programs and/or limit or cease its operations.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business. The financial statements do not reflect any adjustments relating to the recoverability and reclassification of assets and liabilities that might be necessary if the Company is unable to continue as a going concern.

2. Summary of Significant Accounting Policies

Use of Estimates

The accompanying financial statements have been prepared in accordance with U.S. GAAP. The preparation of financial statements in conformity with U.S. GAAP requires management to make judgments, assumptions and estimates that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosures of contingent liabilities. On an ongoing basis, management evaluates its estimates, including those related to clinical trial accruals, fair value of liabilities, common stock and stock-based awards and income taxes. Management bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ materially from those estimates.

Fair Value of Financial Instruments

The carrying amounts of the Company's financial instruments, including cash and cash equivalents, contracts receivable, prepaid and other current assets, accounts payable, accrued liabilities, and other current liabilities approximate fair value due to their short-term maturities. Short-term investments consist of available-for-sale securities and are carried at fair value. Based upon the borrowing rates (which is a Level 2 input) currently available to the Company for loans with similar terms, the Company believes the carrying amount of the loan payable approximates its fair value. The warrant and derivative liabilities are recorded at estimated fair value with changes in estimated fair value recorded in the Company's statements of operations.

Cash and Cash Equivalents

Cash equivalents include only securities having a maturity of three months or less at the time of purchase. As of September 30, 2017 and December 31, 2016, cash and cash equivalents consisted of bank deposits, cash, commercial paper, money market funds, cash repurchase agreement investments and overnight cash sweep investments in government money market funds.

Short-term Investments

Short-term investments consist of debt securities with maturities greater than three months, but less than one year from the date of acquisition, and are classified as available for sale. Short-term investments are carried at fair value. Unrealized gains and losses on available-for-sale securities are excluded from earnings and reported as a component of net unrealized gain (loss) on available-for-sale securities in the Company's consolidated statements of comprehensive loss. The amortized cost of debt securities reflects amortization of purchase premiums and accretion of purchase discounts to date, which are included in interest income.

The Company reviews all of its marketable securities on a regular basis to evaluate whether any security has experienced an other-than-temporary decline in fair value.

Restricted Cash

At September 30, 2017 and December 31, 2016, the Company had restricted cash of $11.2 million and $0.4 million, respectively. The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the consolidated balance sheet that sum to the total of the same such amounts shown in the consolidated statements of cash flows (in thousands):

	September 30, 2017	December 31, 2016
Cash and cash equivalents	$ 134,657	$ 118,964
Restricted cash, current	7,380	127
Restricted cash, non-current	3,855	250
Total cash, cash equivalents, and restricted cash	$ 145,892	$ 119,341

As of September 30, 2017 and December 31, 2016, the Company had $10.7 million and zero, respectively, of restricted cash related to the cash provided by the Gates Foundation, in connection with the Grant Agreement, Gates Purchase Agreement and Letter Agreement (see Note 1). As of September 30, 2017 and December 31, 2016, the Company had $0.5 million and $0.4 million, respectively, of restricted cash, which relates to the Company’s facility leases.

Concurrently with the Grant Agreement, the Company entered into the Gates Purchase Agreement, pursuant to which the Company issued 407,331 shares of contingently redeemable common stock to the Gates Foundation for the Gates Investment (see Note 1). In addition, the Letter Agreement, among other things, restricts the Company’s use of both the Grant Funds and the Gates Investment to expenditures, including an allocation of overhead and administrative expenses, that are reasonably attributable to the activities required to support the research projects funded by the Gates Foundation.

As a result of such restrictions, as of September 30, 2017, the Company classified the unspent portions of the Grant Funds and Gates Investment, held at one of the Company’s financial institutions, as restricted cash. The restricted cash related to the Company’s leases, which consists of a money market account with one of the Company’s financial institutions, serves as collateral for the letters of credit provided as security deposits under the Company’s facility lease and expire approximately 90 days from the end of their respective lease terms.

Warrant Liability

On June 3, 2016, the Company issued warrants to purchase 1,999,999 shares of its common stock in connection with a private placement financing transaction (the “Private Placement”). Each warrant has an exercise price of $3.66 per share and is exercisable for five years from the date of issuance. The Company accounts for these warrants as a liability instrument measured at estimated fair value. The initial fair value of the warrants was determined using a calibration model that involved using the Black-Scholes Pricing Model ("Black-Scholes"), which requires inputs such as the risk-free interest rate, expected share price volatility, underlying price per share of the Company's common stock and remaining term of the warrants. The warrants are subject to remeasurement at each balance sheet date, using Black-Scholes, with any changes in the fair value of the outstanding warrants recognized in the condensed consolidated statements of operations. As of September 30, 2017, warrants to purchase 1,178,782 shares of the Company’s common stock remain outstanding and unexercised.

Segment Reporting

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker in making decisions regarding resource allocation and assessing performance. The Company has one operating segment.

Customer Concentration

For the three-month and nine-month periods ended September 30, 2017 and 2016, the Company's revenue was generated from funding pursuant to U.S. government contracts and a non-profit foundation grant. All contracts receivable relate to funding from U.S. government contracts.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to a significant concentration of credit risk consist of cash, cash equivalents and short-term investments. Cash and cash equivalents are deposited in checking, overnight sweep and money market accounts at one financial institution with balances that generally exceed federally insured limits. Management believes that the financial institution is financially sound, and, accordingly, minimal credit risk exists with respect to this financial institution. The Company's investment policy limits investments to certain types of debt securities issued by the U.S. government, its agencies and institutions with investment-grade credit ratings and places restrictions on maturities and concentration by type and issuer. The Company is exposed to credit risk in the event of default by the institutions holding its cash and cash equivalents or issuing the debt securities. As of September 30, 2017 and December 31, 2016, the Company had not experienced any credit losses in such accounts or investments.

Revenue Recognition

The Company recognizes revenue when: (i) evidence of an arrangement exists, (ii) fees are fixed or determinable, (iii) services have been delivered, and (iv) collectability is reasonably assured. The Company currently generates revenue from government contracts and a non-profit foundation grant (collectively, the "Revenue Contracts"). Revenue Contracts are agreements that provide the Company with payments for certain types of expenditures in return for research and development activities over a contractually-defined period. Revenue from the Revenue Contracts is recognized in the period during which the related costs are incurred and the related services are rendered, provided that the applicable conditions under the government contracts have been met. Costs of contract revenue are recorded as a component of operating expenses in the Company's consolidated statement of operations.

Funds received from third parties under contract arrangements are recorded as revenue if the Company is deemed to be the principal participant in the contract arrangements because the activities under the contracts are part of the Company's development programs. If the Company is not the principal participant, the funds from contracts are recorded as a reduction to research and development expense. Contract funds received are not refundable and are recognized when the related qualified research and development costs are incurred and when there is reasonable assurance that the funds will be received. Funds billed and received in advance are recorded as deferred revenue.

Research and Development Costs

Research and development costs are expensed as incurred. Research and development expenses include certain payroll and personnel expenses; laboratory supplies; consulting costs; external contract research and development expenses; and allocated overhead, including rent, equipment depreciation and utilities, and relate to both Company-sponsored programs as well as costs incurred pursuant to collaboration agreements and government contracts.

The Company estimates preclinical study and clinical trial expenses based on the services performed pursuant to contracts with research institutions and clinical research organizations that conduct and manage preclinical studies and clinical trials on its behalf. In accruing service fees, the Company estimates the time period over which services will be performed and the level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from the estimate, the Company will adjust the accrual accordingly. Payments made to third parties under these arrangements in advance of the receipt of the related services are recorded as prepaid expenses until the services are rendered.

Advance payments for goods or services that will be used or rendered for future research and development activities are capitalized as prepaid expenses and other current assets and recognized as an expense as the goods are delivered or the related services are performed.

Recent Accounting Pronouncements

In February 2016, the FASB issued ASU No. 2016-02, *Leases* , which, for operating leases, requires a lessee to recognize a right-of-use asset and a lease liability, initially measured at the present value of the lease payments, in its balance sheet. The standard also requires a lessee to recognize a single lease cost, calculated so that the cost of the lease is allocated over the lease term, on a generally straight-line basis. This ASU will be effective for the Company in fiscal year 2019. Early adoption is permitted. The Company is currently assessing the potential effects of this ASU on its consolidated financial statements.

In May 2014, the FASB issued ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606), which provides a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and will supersede most current revenue recognition guidance. This ASU is based on the principle that revenue is recognized to depict the transfer of goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. This ASU defines a five-step process to achieve this core principle and, in doing so, it is possible more judgment and estimates may be required within the revenue recognition process than are required under existing GAAP. The Company expects to adopt the new revenue standard as of January 1, 2018 using the modified retrospective method. The Company has completed its assessment of the first step which included identifying the Company's customers. Through the remainder of 2017, the Company will continue to assess the potential impact of adopting this new standard on any current, new or significantly modified customer contracts. In subsequent quarters, the Company will complete its evaluation of additional disclosures that may be required upon adoption of the new standard.

In May 2017, the FASB issued ASU No. 2017-09, *Compensation – Stock Compensation (Topic 718): Scope of Modification Accounting* . This ASU provides guidance about which changes to the terms or conditions of a share-based payment award requires the Company to apply modification accounting. This ASU will be effective for the Company for annual reporting periods, including interim reporting periods, beginning after December 15, 2017. Early adoption is permitted. The Company is currently assessing the potential effects of this ASU on its consolidated financial statements.

Net Loss Per Share

Basic net loss per common share is computed by dividing the net loss by the weighted-average number of common shares outstanding during the period. Diluted net loss per common share is computed by dividing the net loss by the weighted-average number of common shares and dilutive common share equivalents outstanding during the period. For purposes of this calculation, preferred stock, stock options, restricted stock units and warrants are considered to be common stock equivalents and are only included in the calculation of diluted net loss per share when their effect is dilutive. The following tables set forth the computation of the Company's basic and diluted net loss per share (in thousands, except shares and per share data):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Numerator:				
Net loss used to compute basic net loss per share	$ (29,907)	$ (11,038)	$ (89,235)	$ (41,503)
Less: Gain on private placement warrants	(6,795)	-	-	-
Net loss used to compute diluted net loss per share	$ (36,702)	$ (11,038)	$ (89,235)	$ (41,503)
Denominator:				
Weighted-average shares used to compute basic net loss per share	42,259,001	26,789,397	38,709,811	22,046,368
Add: Private placement warrant shares	952,058	-	-	-
Weighted-average shares used to compute diluted net loss per share	43,211,059	26,789,397	38,709,811	22,046,368
Net loss per share:				
Basic	$ (0.71)	$ (0.41)	$ (2.31)	$ (1.88)
Diluted	$ (0.85)	$ (0.41)	$ (2.31)	$ (1.88)

For the three-month and nine-month periods ended September 30, 2017 and 2016, potentially dilutive securities outstanding have been excluded from the computations of diluted weighted-average shares outstanding because such securities have an antidilutive impact due to losses reported. The following potentially dilutive securities have been excluded from diluted net loss per share, because their effect would be antidilutive, as of September 30, 2017 and 2016:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Options to purchase common stock	4,793,775	3,416,136	4,793,775	3,416,136
Restricted stock units	845,705	561,428	845,705	561,428
Warrants to purchase common stock	17,514	2,030,023	1,196,296	2,030,023

3. Fair Value Measurements

Financial assets and liabilities are recorded at fair value. The carrying amount of certain financial instruments, including cash and cash equivalents, restricted cash, contracts receivable, accounts payable and accrued liabilities approximate fair value due to their relatively short maturities. Assets and liabilities recorded at fair value on a recurring basis in the consolidated balance sheets are categorized based upon the level of judgment associated with the inputs used to measure their fair values. Fair value is defined as the exchange price that would be received for an asset or an exit price that would be paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The authoritative guidance on fair value measurements establishes a three-tier fair value hierarchy for disclosure of fair value measurements as follows:

Level 1 : Quoted prices in active markets for identical assets or liabilities.

Level 2 : Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 : Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and consider factors specific to the asset or liability.

Where quoted prices are available in an active market, securities are classified as Level 1 of the valuation hierarchy, including cash held at overnight sweep accounts. The Company's Level 2 valuations of marketable securities are generally derived from independent pricing services based upon quoted prices in active markets for similar securities, with prices adjusted for yield and number of days to maturity, or based on industry models using data inputs, such as interest rates and prices that can be directly observed or corroborated in active markets.

In certain cases, where there is limited activity or less transparency around inputs to valuation, securities are classified as Level 3 within the valuation hierarchy. Level 3 liabilities that are measured at estimated fair value on a recurring basis consist of a derivative liability in connection with loan payable and a warrant liability in connection with the Private Placement.

As of September 30, 2017 and December 31, 2016, financial assets and liabilities measured and recognized at fair value on a recurring basis and classified under the appropriate level of the fair val ue hierarchy as described above were as follows (in thousands):

	September 30, 2017			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Assets				
Level 1:				
Cash equivalents	$ 126,267	$ —	$ —	$ 126,267
Restricted cash	11,235	—	—	11,235
Subtotal	137,502	—	—	137,502
Level 2:				
Corporate debt securities	8,664	—	(2)	8,662
U.S. Treasury bills	21,004	—	(8)	20,996
Commercial paper	43,475	1	—	43,476
Subtotal	73,143	1	(10)	73,134
Total	$ 210,645	$ 1	$ (10)	$ 210,636
Reported as:				
Cash and cash equivalents				$ 134,657
Short-term investments				$ 64,744
Restricted cash				$ 11,235
Liabilities, Level 3				
Warrant Liability				$ 15,681
Derivative Liability				$ 664
Total				$ 16,345

	December 31, 2016			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Assets				
Cash	$ 3,728	$ —	$ —	$ 3,728
Level 1:				
Restricted cash	377	—	—	377
Money market funds	115,236	—	—	115,236
Subtotal	115,613	—	—	115,613
Level 2:				
Corporate debt securities	12,969	—	(7)	12,962
Commercial paper	13,950	—	—	13,950
Subtotal	26,919	—	(7)	26,912
Total	$ 146,260	$ —	$ (7)	$ 146,253
Reported as:				
Cash and cash equivalents				$ 118,964
Short-term investments				$ 26,912
Restricted cash				$ 377
Liabilities, Level 3				
Warrant liability				$ 13,874
Derivative liability				$ 602
Total				$ 14,476

All available-for-sale securities held as of September 30, 2017 had maturities less than one year from the date of acquisition. There were no sales of available-for-sale securities in any of the periods presented. The carrying value of debt securities that were in unrealized loss positions totaled $31.3 million as of September 30, 2017. The Company has determined that (i) it does not have the i ntent to sell any of these investments, and (ii) it is not more likely than not that it will be required to sell any of these investments before recovery of the entire amortized cost basis. The Company anticipates that it will recover the entire amortized cost basis of such debt securities and has determined that no other-than-temporary impairments associated with credit losses were required to be recognized during the three-month and nine-month periods ended September 30, 2017.

Pursuant to the loan and security agreement with Solar Capital Ltd. (see Note 7), the Company entered into a Success Fee Agreement under which the Company agreed to pay $1.0 million in cash (the "Success Fee") if the Company obtains approval to market plazomicin from the Food and Drug Administration (the "FDA"). If such approval is obtained, the Success Fee shall be due the later of (i) August 5, 2019 or (ii) the date such FDA approval is obtained. The fair value of the Success Fee, approximately $602,000 at December 31, 2016, is recorded as a derivative liability and included in other long-term liabilities on the accompanying condensed consolidated balance sheet. The estimated fair value of the derivative liability as of September 30, 2017 increased by $21,000 and $62,000 to $664,000 from December 31, 2016, as a result of the time value of money, which is presented as change in warrant and derivative liabilities in the Company's condensed consolidated statements of operations for the three-month and nine-month periods ended September 30, 2017, respectively.

The fair value of the derivative liability was determined using a discounted cash flow analysis, and is classified as a Level 3 measurement within the fair value hierarchy since the Company’s valuation utilized significant unobservable inputs. Specifically, the key assumptions included in the calculation of the estimated fair value of the derivative instrument include: i) the Company’s estimates of both the probability and timing of a potential $1.0 million payment to Solar Capital Ltd. as a result of FDA approval to market plazomicin, and ii) a discount rate of 13% which was derived from the Company's estimated cost of debt. The estimated fair value of the derivative liability is most sensitive to the probability of FDA approval. Should the probability of FDA approval change by 5%, the fair value of the derivative liability as of September 30, 2017 would change by approximately $39,000. For the three-month and nine-month periods ended September 30, 2017, there was no change to the key assumptions used in the calculation of the estimated fair value. Any changes in the estimated fair values are presented as changes in warrant and derivative liabilities in the Company's condensed consolidated statements of operations.

Pursuant to the Private Placement (see Note 2), the Company issued warrants to purchase 1,999,999 shares of common stock at an exercise price of $3.66. The Company classified these warrants as a liability measured at fair value using Black-Scholes. Under certain entity conditions, the holder of a warrant may require the Company to settle the warrant in cash at its estimated fair value using Black-Scholes. On June 3, 2016, the closing date of the Private Placement, the $2.6 million initial estimated fair value of the warrants was recorded as a warrant liability on the accompanying condensed consolidated balance sheet. At September 30, 2017 and December 31, 2016, the estimated fair values of the outstanding warrants were approximately $15.7 million and $13.9 million, respectively. The change in the estimated fair value is primarily due to the change in the Company's stock price and is included in changes in warrant and derivative liabilities in the Company's condensed consolidated statements of operations.

During the nine-month period ended September 30, 2017, certain holders of these warrants exercised warrants to purchase 113,948 shares of common stock. The Company received $0.4 million in proceeds from these warrant exercises. The Company is required to record the exercised warrants at its estimated fair value at the time of exercise, with any change included in changes in warrant and derivative liabilities in the Company’s condensed consolidated statements of operations. The Company estimated the fair value of these exercised warrants at their respective exercise dates to be $2.1 million, an increase of $0.9 million from its valuation, at December 31, 2016, of $1.2 million, primarily due to an increase in the Company’s stock price.

The fair value of the warrant liability is classified as a Level 3 measurement within the fair value hierarchy since the Company’s valuation utilized significant unobservable inputs, including the risk-free interest rate, expected share price volatility, underlying price per share of the Company's common stock and remaining term of the warrants. At September 30, 2017 and December 31, 2016, the estimated fair values of the warrants were determined using Black-Scholes with the following assumptions:

	September 30, 2017	December 31, 2016
Expected volatility	80%	80%
Expected term	3.7 years	4.2 years
Risk-free interest rate	1.7%	1.8%
Dividend yield	—%	—%

The expected volatility is based on the Company's expected volatility. The expected term is based on the remaining life of the warrants. The risk-free interest rate is obtained from the yields on actively traded U.S. Treasury securities for a period equal to the expected term of the warrants. The dividend yield is zero because the Company has never paid cash dividends and has no present

intention to pay cash dividends. Should the share price change by 5%, the fair value of the warrant liability as of Septem ber 30, 2017 would change by approximately $0.9 million.

Changes in the fair value of recurring measurements included in Level 3 of the fair value hierarchy are presented as changes in warrant and derivative liabilities in the Company's condensed consolidated statements of operations and were as follows for the nine-month period ended September 30, 2017 (in thousands):

	Estimated Fair Value of Warrant Liability	Estimated Fair Value of Derivative Liability
Balance of Level 3 Liabilities at December 31, 2016	$ 13,874	$ 602
Change in estimated fair value of warrant liability	3,896	—
Reclassification of warrant liability to additional paid in capital upon exercise of warrants	(2,089)	—
Change in estimated fair value of derivative liability	—	62
Balance of Level 3 Liabilities at September 30, 2017	$ 15,681	$ 664

Warrants outstanding as of September 30, 2017 and 2016 have a weighted-average exercise price of $3.78.

4. Balance Sheet Components

Prepaids and other current assets

Prepaids and other current assets consisted of the following (in thousands):

	September 30, 2017	December 31, 2016
Deferred research and development costs	$ 4,457	$ 660
Prepaid expenses	1,490	1,390
Other current assets	298	139
	$ 6,245	$ 2,189

Property and Equipment, net

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

	September 30, 2017	December 31, 2016
Office equipment	$ 863	$ 644
Laboratory equipment	5,701	4,038
Leasehold improvements	8,055	1,072
Construction-in-progress	1,436	1,896
	16,055	7,650
Less: accumulated depreciation and amortization	(3,083)	(4,389)
Property and equipment, net	$ 12,972	$ 3,261

Depreciation and amortization expense for the three-month periods ended September 30, 2017 and 2016 was $0.4 million and $0.1 million, respectively, and $0.9 million and $0.3 million, respectively, for the nine-month periods ended September 30, 2017 and 2016.

Accrued Liabilities

Accrued liabilities consisted of the following (in thousands):

	September 30, 2017	December 31, 2016
Accrued clinical and development expenses	$ 2,188	$ 3,681
Payroll and related bonus expenses	6,242	4,941
Other	1,038	1,076
	$ 9,468	$ 9,698

5. License and Collaboration Agreements

Thermo Fisher Scientific, Inc.

In April 2016, the Company entered into an agreement with its collaboration partner, Microgenics Corporation ("Thermo Fisher"), a wholly owned subsidiary of Thermo Fisher Scientific, Inc., to develop and commercialize an assay to support plazomicin. If approved, the Company and Thermo Fisher plan to have a commercial assay for plazomicin available at launch to enable health care professionals to make decisions on safe and efficacious doses of plazomicin. In accordance with the terms of the agreement, the Company is required to make milestone payments with respect to research, development, regulatory and commercialization milestones (if any). All such milestone payments may total, in aggregate, up to but no more than approximately $6.5 million. In further consideration of this agreement, in the event of a successful commercialization of the assay, the Company is required to pay a minimum threshold annual revenue to Thermo Fisher.

In February 2017, the Company announced the achievement of a strategic milestone in its ongoing collaboration to develop an assay enabling therapeutic drug management of plazomicin, and incurred $0.9 million of research and development expense related to this milestone. As of September 30, 2017, the Company has incurred $1.7 million in milestone payments and these costs were fully recorded as research and development expense.

Crystal Biosciences, Inc.

In May 2016, the Company entered into a collaboration and license agreement with Crystal Biosciences, Inc. ("Crystal"). Pursuant to the terms of this agreement, the Company and Crystal agreed to collaborate on the discovery of monoclonal antibodies against multiple targets. Crystal agreed to conduct the initial discovery work with its antibody platform and the Company has the right to develop and commercialize the antibodies discovered through this collaboration. The Company is required to provide signing and milestone payments with respect to research, development, regulatory and commercialization milestones (if any). All such milestone payments may total, in aggregate, up to but no more than approximately $20.6 million. The upfront signing fee, technology access fees and research funding were recorded as research and development expense. This collaboration and license agreement also provides that the Company shall pay royalties equal to a low single-digit percentage of annual worldwide net sales of the commercialized product.

Ionis Pharmaceuticals

In January 2006, the Company entered into a license agreement with Ionis Pharmaceuticals, Inc. ("Ionis"). Ionis granted the Company an exclusive, worldwide license with the right to grant and authorize sublicenses related to the research and development of aminoglycoside products. As an up-front fee, the Company issued 97,402 shares of Series A convertible preferred stock at a fair value of $15.40 per share. This license fee of $1,500,000 was recorded as research and development expense in 2006. In further consideration of this license, and in accordance with the terms of the agreement, the Company is required to make milestone payments with respect to development, regulatory and commercialization milestones, and to pay a percentage of revenue received from sublicensees (if any). All such milestone and sublicense revenue payments may total, in the aggregate, up to but no more than $19,500,000 for the first product and $9,750,000 following the second product commercialized under the agreement with Ionis. The Company is also required to pay additional milestone payments of up to $20,000,000 in the aggregate upon the first achievement of specified threshold levels of annual net sales of all aminoglycoside products in a calendar year. The license agreement also provides that the Company shall pay royalties equal to a low single-digit percentage of annual worldwide net sales of all licensed products, including, if applicable, plazomicin.

Through September 30, 2017, the Company had compensated Ionis $7,000,000 in connection with the first three milestones under the license for the first aminoglycoside product candidate. As of September 30, 2017, the Company had no outstanding payments due under the license.

6. Revenue Contracts

Certain of the Company's drug discovery and development activities are performed under contracts with the Gates Foundation and U.S. government agencies. Management has determined that the Company is the principal participant in the following contract arrangements, and, accordingly, the Company records amounts earned under the arrangements as revenue. Costs incurred under the Revenue Contracts are recorded as operating expenses in the Company's consolidated statements of operations.

Bill & Melinda Gates Foundation

In May 2017, the Company entered into an agreement with the Gates Foundation to discover drug candidates against gram-negative bacterial pathogens intended to prevent neonatal sepsis (the "Grant Agreement"). The Gates Foundation awarded the Company up to approximately $10.5 million in grant funding ("Grant Funds") over a three-year research term, of which approximately $3.2 million of committed funding was received in May 2017 (the "Advance Funds"). The Advance Funds are

replenished by the Gates Foundation each calendar year, or sooner, following the Company's submission of a progress report, including expenses incurred for the re search activities. Under certain conditions, as described in the Grant Agreement, the Gates Foundation may terminate the Grant Agreement and the Company is obligated to return to the Gates Foundation any unused portion of the Advance Funds. In accordance w ith the Company's significant accounting policies, the Advance Funds are recorded as deferred revenue.

The Company recorded contract revenue of $0.3 million and $0.5 million, respectively, under this agreement during the three-month and nine-month periods ended September 30, 2017. The Company did not record any contract revenue from the Gates Foundation during 2016.

Biomedical Advanced Research and Development Authority

In August 2010, the Company was awarded a contract with the Biomedical Advanced Research and Development Authority ("BARDA") for the development, manufacturing, nonclinical and clinical evaluation of, and regulatory filings for, plazomicin as a countermeasure for disease caused by antibiotic-resistant pathogens and biothreats. The original contract included committed funding of $27.6 million for the first two years of the contract and subsequent options exercisable by BARDA to provide additional funding. In September 2012, BARDA exercised an additional $15.8 million contract option ("Option 1"), which increased the total contract committed funding to $43.4 million through March 2014. In April 2013, the Company was awarded an additional $60.4 million under the contract to support its Phase 3 clinical trial of plazomicin ("Option 2") to increase the total committed funding under this contract to $103.8 million. On May 26, 2016, the Company was awarded an additional $20.0 million ("Option 3") under the contract to support its Phase 3 EPIC trial of plazomicin. In April 2017, BARDA modified Option 1 to allow for an additional $0.5 million of contract funding. This brings the total committed funding under this contract to $124.3 million. Through September 30, 2017, a total of $124.3 million has been recorded as revenue, with an insignificant amount of funding remaining under this BARDA contract.

In September 2017, the Company was awarded the C-Scape Contract ("C-Scape Contract") valued at up to $18.0 million from BARDA to support the development of C-Scape. The C-Scape Contract includes a base period with committed funding of $12.0 million and subsequent option periods that, if exercised, would bring the total value of the award to $18.0 million. Through September 30, 2017, the Company has recorded an insignificant amount to revenue, with $12.0 million remaining available from the funding currently commited under the C-Scape Contract.

The Company recorded contract revenue of zero and $15.4 million under these agreements during the three-month periods ended September 30, 2017 and 2016, respectively, and $7.7 million and $29.2 million, respectively, during the nine-month periods ended September 30, 2017 and 2016.

National Institute of Allergy and Infectious Diseases

In July 2015, the Company was awarded a contract by the National Institute of Allergy and Infectious Diseases ("NIAID") to support the discovery and development of LpxC inhibitors for the treatment of bacterial infections for $1.5 million committed through June 30, 2016. In January 2016, an additional committed funding of $0.5 million was added. In April 2016, NIAID modified the contract to exercise the first option to increase the total contract committed funding to $4.4 million through February 2018. In April 2017, NIAID modified the contract to add committed funding of $0.3 million to the first option, bringing the total committed funding to $4.7 million. In June 2017, NIAID modified the contract to exercise the second option of $0.6 million, bringing the total committed funding to $5.3 million, of which $0.8 million remains available. During the third quarter of 2017, the Company decided to discontinue all research and development efforts on our preclinical LpxC inhibitor programs for gram-negative pathogens. The Company does not expect to draw further revenues under this contract.

The Company recorded contract revenue of $0.3 million and $0.6 million under these agreements during the three-month periods ended September 30, 2017 and 2016, respectively, and $1.1 million and $1.8 million, respectively, during the nine-month periods ended September 30, 2017 and 2016.

7. Borrowings

Solar Capital Ltd. Loan Agreement

On August 5, 2015, the Company entered into a loan and security agreement (the "Loan Agreement") with Solar Capital Ltd. (the "Lender") pursuant to which the Lender agreed to make available to the Company term loans in an aggregate principal amount of up to $25.0 million with a maturity date of August 5, 2019. An initial $15.0 million term loan was funded at closing on August 5, 2015, and a second $10.0 million term loan was funded on June 20, 2016. Borrowings under the term loans bear interest per annum at 6.99% plus the greater of 1% or the one-month LIBOR. Beginning on September 1, 2017 the Company is required to make monthly payments of interest plus equal monthly payments of principal over a term of 24 months. The Loan Agreement requires collateral by a security interest in all of the Company's assets except intellectual property (which is subject to a negative pledge) and contains

customary affirmative and negative covenants, and also includes standard events of default, including payment defaults. Upon the occurrence of an event of default, a default interest rate of an additional 4% may be appli ed to the outstanding loan balances, and the Lender may declare all outstanding obligations immediately due and payable and take such other actions as set forth in the Loan Agreement. There were no financial covenants attached to the loan. The Loan Agreeme nt included a closing fee of $250,000 which was paid at closing, and the Company is obligated to pay a fee equal to 8% of the term loans funded upon the earliest to occur of the maturity date, the acceleration of the term loans or the voluntary prepayment of the term loans. The cost of these fees is being amortized as interest expense over the term of the loan using the effective-interest method. The Company may voluntarily prepay all, but not less than all, of the outstanding term loans. The Loan Agreement contains customary representations, warranties and covenants. In addition, the Loan Agreement contains customary events of default that entitle the Lender to cause the Company's indebtedness under the Loan Agreement to become immediately due and payable.

On August 5, 2015, pursuant to the Loan Agreement, the Company entered into a Success Fee Agreement with the Lender under which the Company agreed to pay the Lender $1.0 million if the Company obtains FDA approval to market plazomicin. If such approval is obtained, the Success Fee shall be due the later of (i) August 5, 2019 or (ii) the date such FDA approval is obtained. The fair value of the Success Fee at the date of issuance of approximately $356,000 was recorded as a debt discount and is being amortized as interest expense over the term of the loan using the effective-interest method.

Future principal debt payments on the currently outstanding term loan are payable as follows (in thousands):

	September 30, 2017
2017	$ 3,125
2018	12,500
2019	8,333
Total principal payments	23,958
Final fee due at maturity in 2019	2,000
Total principal and final fee payments	25,958
Unamortized discount and debt issuance costs	(1,084)
Total loan obligation	24,874
Less current portion	(12,500)
Loan payable, long-term	$ 12,374

The obligation includes a final fee of $2.0 million, representing 8% of the term loan currently funded, which accretes over the life of the loan as interest expense. The Company recorded interest expense related to the loan of $0.7 million and $0.7 million for the three-month periods ended September 30, 2017 and 2016, respectively, and $2.2 million and $1.6 million, respectively, for the nine-month periods ended September 30, 2017 and 2016.

8. Stockholders' Equity

On April 7, 2015, the Company filed a Registration Statement on Form S-3 (the "2015 Shelf Registration Statement"), which included a prospectus covering the offering, issuance and sale of up to $30.0 million of shares of the Company's common stock from time to time in an "at-the-market" ("ATM") equity offering. The Company entered into a Sales Agreement (the "Sales Agreement") with Cowen and Company, LLC ("Cowen"), pursuant to which the Company may issue and sell shares of its common stock having aggregate sales proceeds of up to $30.0 million from time to time through an ATM equity program under which Cowen acts as sales agent.

As of September 30, 2017, the Company had sold 1,105,549 shares of common stock under the Sales Agreement, at a weighted-average price of approximately $4.82 per share for aggregate gross proceeds of $5.3 million and net proceeds of $5.1 million after deducting the sales commissions and offering expenses. As of September 30, 2017, $24.7 million of common stock remained available to be sold under the Sales Agreement, subject to certain conditions specified therein.

On June 3, 2016, the Company sold 7,999,996 shares of its common stock and warrants to purchase 1,999,999 shares of its common stock pursuant to the Purchase Agreement for aggregate gross proceeds of $25.4 million in the Private Placement. The warrants have an exercise price of $3.66 and are exercisable up to five years from the date of issuance. The Company's Chief Operating Officer, a related party, participated in the Private Placement by purchasing 141,453 shares of common stock and a warrant to purchase 35,363 shares of common stock for an aggregate purchase price of $0.5 million. Issuance costs of $0.3 million were offset against equity as a reduction from gross proceeds.

At the close of the Private Placement, the estimated fair values of the common stock and warrants issued were $22.9 million and $2.6 million, respectively. At September 30, 2017, using Black-Scholes, the Company estimated the fair value of the remaining warrants outstanding to be $15.7 million and recorded a charge of $1.8 million and $11.3 million, for the increase in the liability, in

the condensed consolidated statements of operations, for the nine-month period ended September 30, 2017 and year ended December 31, 2016 **,** respectively.

On December 19, 2016, the Company completed an underwritten public offering of 7,475,000 shares of its common stock at a price to the public of $13.50 per share, including the full exercise of the underwriters' option to purchase an additional 975,000 shares of common stock. The Company received net proceeds from the offering of $94.6 million, after deducting the underwriting discounts and commissions and estimated offering expenses.

On May 31, 2017, the Company completed an underwritten public offering of 5,750,000 shares of its common stock at a price to the public of $22.50 per share, including the closing of the full exercise of the underwriters' option to purchase an additional 750,000 shares of common stock on June 9, 2017. The Company received net proceeds from the offering of $121.2 million, after deducting the underwriting discounts and commissions and offering expenses.

Equity Incentive Plans

2014 Equity Incentive Award Plan

In February 2014, the Company's stockholders approved the 2014 Equity Incentive Award Plan (the "2014 Plan"), which became effective as of March 11, 2014. Under the 2014 Plan, the Company may grant incentive stock options ("ISOs"), nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock units ("RSUs") and other stock-based awards for the purchase of that number of shares of common stock. Effective January 1, 2017, the compensation committee of the Board of Directors approved an evergreen increase of 1,425,522 shares that may be granted in accordance with the terms of the 2014 Plan. As of September 30, 2017, 797,864 shares were available for future issuance under the 2014 Plan.

Under the 2014 Plan, the terms of stock award agreements, including vesting requirements, are determined by the board of directors, subject to the provisions of the 2014 Plan. Options granted by the Company typically vest over a four year period and the exercise price may not be less than fair market value on the date of grant. Certain of the options are subject to acceleration of vesting in the event of certain change of control transactions. Options granted under the 2014 Plan expire no later than 10 years from the date of grant.

2014 Employment Commencement Incentive Plan

In December 2014, the Company adopted a 2014 Employment Commencement Incentive Plan (the "Inducement Plan"). The Inducement Plan is designed to comply with the inducement exemption contained in Nasdaq's Rule 5635(c)(4), which provides for the grant of non-qualified stock options, RSUs, restricted stock awards, performance awards, dividend equivalents, deferred stock awards, deferred stock units, stock payment and stock appreciation rights to a person not previously an employee or director of the Company, or following a bona fide period of non-employment, as an inducement material to the individual's entering into employment with the Company. As of September 30, 2017, a total of 2,050,000 shares of common stock have been authorized under the Inducement Plan, including an additional 450,000 shares that became available resulting from an amendment adopted by the Board of Directors as of September 13, 2017. As of September 30, 2017, 338,073 shares were available for future issuance under the Inducement Plan.

2014 Employee Stock Purchase Plan

In February 2014, the Company's stockholders approved the 2014 Employee Stock Purchase Plan (the "ESPP"), which became effective as of March 11, 2014. Effective January 1, 2017, the compensation committee of the board of directors approved an evergreen increase of 178,190 shares that may be granted in accordance with the terms of the ESPP. As of September 30, 2017, 336,139 shares of common stock have been issued to employees participating in the ESPP and 350,528 shares are available for issuance under the ESPP.

Amended and Restated 2003 Stock Plan

The Company's Amended and Restated 2003 Stock Plan (the "2003 Plan"), provided for the granting of incentive and non-statutory stock options to employees, directors and consultants at the discretion of the board of directors. The Company granted options under its 2003 Plan until January 2014 and it was terminated as to future awards in March 2014, although it continues to govern the terms of options that remain outstanding under the 2003 Plan.

Options granted under the 2003 Plan expire no later than 10 years from the date of grant. Options granted under the 2003 Plan vest over periods determined by the board of directors, generally over four years.

The 2003 Plan allows for early exercise of certain options prior to vesting. Upon termination of employment, the unvested shares are subject to repurchase at the original exercise price. Stock options granted or modified after March 21, 2002, that are

subsequently exercised for cash prior to v esting, are not deemed to be issued until those shares vest. As of September 30, 2017 and December 31, 2016 there were no shares subject to repurchase relating to the early exercise of options.

In connection with the board of directors' and stockholders' approval of the 2014 Plan, all remaining shares available for future awards under the 2003 Plan were transferred to the 2014 Plan, and the 2003 Plan was terminated as to future awards. As of September 30, 2017, a total of 829,586 shares of common stock are subject to options outstanding under the 2003 plan, which shares will become available under the 2014 Plan to the extent the options are forfeited or lapse unexercised.

The following table summarizes stock option activity under the stock plans, excluding the ESPP, and related information:

	Shares Available for grant	Shares Subject to Options Outstanding	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (years)
Balance, December 31, 2016	639,374	3,540,293	$ 6.31	7.98
Additional shares authorized	2,325,522	—		
Options granted	(1,641,757)	1,641,757	$ 21.96	
Options exercised	—	(164,593)	$ 7.50	
Options cancelled	223,682	(223,682)	$ 8.24	
RSUs granted	(470,076)	—		
RSUs cancelled	59,192	—		
Balance, September 30, 2017	1,135,937	4,793,775	$ 11.54	7.86

Stock-based compensation expense recognized for stock options granted to employees and non-employee directors in the Company's condensed consolidated statements of operations was as follows (in thousands):

	Three Months Ended September 30		Nine Months Ended September 30	
	2017	2016	2017	2016
Research and development	$ 1,627	$ 542	$ 4,558	$ 1,511
General and administrative	2,179	432	5,258	1,215
Total	$ 3,806	$ 974	$ 9,816	$ 2,726

Stock-based compensation expense for the nine-month period ended September 30, 2017 includes $0.6 million of expense that relates to stock options and restricted stock units held by the former Chief Medical Officer, which were modified upon his resignation in March 2017, including $0.7 million related to such modifications.

As of September 30, 2017, approximately $23.6 million of total unrecognized stock-based compensation expense related to unvested stock options is expected to be recognized over a weighted-average period of 3.1 years.

The estimated grant date fair value of employee stock options with time-based vesting terms was calculated using the Black-Scholes valuation model, based on the following assumptions:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Expected term	5.8–6.0 years	6.0 years	5.3–6.0 years	5.3–6.0 years
Expected volatility	78-79%	67-68%	78-81%	67%–74%
Risk-free interest rate	1.9%–2.1%	1.1%–1.3%	1.7%–2.1%	1.1%–1.5%
Expected dividend yield	—%	—%	—%	—%

Stock Options Granted to Non-Employees

During the three-month and nine-month periods ended September 30, 2017, the Company granted to a non-employee consultant an option to purchase an aggregate of 3,000 shares of common stock and 1,500 RSUs, that vest upon the achievement of certain performance-based targets. The Company will record the estimated fair value of the awards at the time the performance-based targets are met, which has not occurred as of September 30, 2017. During the three-month and nine-month periods ended September 30, 2016, the Company granted 15,000 stock options and no RSUs to a non-employee consultant. The Company recorded non-employee stock-based compensation expense of approximately $67,000 and $6,000 for the three-month periods ended September 30, 2017 and 2016, respectively, and $481,000 and $6,000, respectively, for the the nine-month periods ended September 30, 2017 and 2016. The Company measures the estimated fair value of the award for each period until the award is fully vested. The non-employee stock-

based compensation expense, during the three-month and nine-month periods ended Septemb er 30, 2017 **,** was estimated using Black-Scholes with the following assumptions:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Expected term	0.25 years	1.01 years	0.25–0.51 years	1.01 years
Expected volatility	60%	63%	48-77%	63%
Risk-free interest rate	1.0 %	0.6%	0.9-1.0 %	0.6%
Expected dividend yield	—%	—%	—%	—%

Restricted Stock Units Granted to Employees

During the nine-month period ended September 30, 2017, the Company granted RSUs to employees to receive 470,076 shares of common stock under the Company's stock plans with a weighted-average estimated grant-date fair value of $21.84 per share. RSUs generally vest annually over a 4-year service period and vesting is contingent on continued service. As of September 30, 2017, unrecognized compensation costs totaled $11.3 million related to outstanding RSUs, which are expected to be recognized over a weighted-average period of 2.9 years.

A summary of RSU activity is as follows:

	RSU Awards Outstanding		
	Number of Shares	Weighted-Average Grant Date Fair Market Value	Aggregate Intrinsic Value (in thousands)
Balance, December 31, 2016	605,052	$ 5.60	$ 7,878
RSUs granted	470,076	$ 21.84	
RSUs released	(170,231)	$ 5.91	
RSUs cancelled	(59,192)	$ 7.73	
Balance, September 30, 2017	845,705	$ 14.42	$ 13,489

Stock Options and Restricted Stock Units Granted to Employees that Contain Performance Conditions

During the three-month periods ended September 30, 2017 and 2016, the Company granted options to purchase an aggregate of 22,500 and 129,000 shares of common stock, respectively, and during the nine-month periods ended September 30, 2017 and 2016, 179,200 and 340,250 shares of common stock, respectively, that vest upon the achievement of market-based common stock price targets. During the three-month periods ended September 30, 2017 and 2016, the Company granted 5,000 and 6,750 RSUs, respectively, and during the nine-month periods ended September 30, 2017 and 2016, 33,950 and 56,925 RSUs, respectively, that vest upon the achievement of market-based common stock price targets.

The fair value was estimated at the grant date using a Monte-Carlo simulation model (“Monte-Carlo”), which requires the use of a range of assumptions. The expected life assumption is not used in Monte-Carlo, but the output of the model indicates an expected term. The associated stock-based compensation expense is being recognized on a straight-line basis over the implicit service period (expected time to vest) derived from Monte-Carlo. The fair value of awards granted to employees was estimated using Monte-Carlo with the following assumptions:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Expected term	0.5–1.8 years	2.5–5.9 years	0.5–1.8 years	2.5–6.0 years
Expected volatility	75%	70%	75%	70%
Risk-free interest rate	2.4%	1.4-1.6%	2.4%	1.4-1.8%
Expected dividend yield	—%	—%	—%	—%

9. Contingently Redeemable Common Stock

In May 2017, the Company entered into a Common Stock Purchase Agreement with the Gates Foundation, pursuant to which the Company agreed to sell 407,331 shares of its contingently redeemable common stock (the "Shares") to the Gates Foundation in a private p lacement at a purchase price per share equal to $24.55, for gross proceeds to the Company of $10.0 million ("Gates Investment").

In connection with the Gates Investment, the Company entered into the Letter Agreement, which includes terms of Global Access Commitments (see Note 1). Under the Letter Agreement, if the Company defaults in its obligation to conduct certain mutually-agreed upon work with the proceeds from the Gates Investment, or otherwise triggers certain other events of default ("Charitable Default"), subject to a cure period, the Gates Foundation will have the right to request that (a) the Company redeem, or facilitate the purchase by a third party of, the Shares then held by the Gates Foundation at a price per share equal to the greater of (i) the fair market value of the common stock (if the Shares are freely tradable, the closing price of the Company's common stock on the trading day prior to the redemption or purchase, as applicable), or (ii) an amount equal to $24.55 plus a compounded annual return of 5% from the date of issuance of the Shares, or (b) if the Shares then held by the Gates Foundation are not freely tradeable, the Company register the resale of the Shares held by the Gates Foundation on an effective registration statement, subject to certain conditions and qualifications.

The Company concluded that certain potential events of the Charitable Default, as defined in the agreement, are not solely within the control of the Company and, accordingly, has classified the Shares outside of permanent equity, as temporary equity (the "Mezzanine Equity"). The 407,331 shares classified as Mezzanine Equity were recorded as contingently redeemable common stock at an initial carrying value equal to the gross proceeds of approximately $10 million, which approximated their fair value at the date of issuance. The Company has determined that the 407,331 shares of contingently redeemable common stock are not currently redeemable and that a Charitable Default is not currently probable. If, and at the time when, a Charitable Default becomes probable, then the Company will record a change in the carrying value to adjust it to the redemption value of the contingently redeemable common stock. At the time of such an occurrence, the contingently redeemable common stock will be adjusted to equal the redemption value at the end of each reporting period.

10. Commitments and Contingencies

Commercial Manufacturing Agreement

In March 2017, the Company entered into a commercial validation and manufacturing agreement (the "Manufacturing Agreement") with Hovione Limited ("Hovione"). Under the Manufacturing Agreement, Hovione has agreed to complete the validation program to validate and scale up the Company's technology to manufacture the active pharmaceutical ingredient for plazomicin (the "Product") and supply the Product to the Company. The Manufacturing Agreement has an initial term of seven years after the first delivery of the Product.

Subject to the successful completion of the validation program and the Company's launch of plazomicin, the Company has agreed to purchase a minimum quantity of the Product from Hovione depending on the Company's requirements and the period of time following approval by the FDA. For the first three years following approval of plazomicin by the FDA, the Company is required to purchase at least 80% of its required quantity from Hovione. Following the initial three years after FDA approval, the Company is required to purchase between 40% and 66% of its required quantity from Hovione, depending on the amounts required during any such fiscal year. Contingent upon FDA's approval of plazomicin, the Company has minimum annual purchase commitments from Hovione, beginning in 2020 through 2024.

In connection with the Manufacturing Agreement, the Company executed certain work plans to carry out the validation and commercial manufacturing of plazomicin (the "Work Plans"). The Work Plans obligated the Company to make an aggregate amount of approximately $6.2 million in nonrefundable advance payments, of which $1.5 million was for the reservation of facilities and resources, plus procurement of long lead raw materials, paid in full under a separate agreement executed in July 2015. Such advance payments are initially capitalized as prepaid and other current assets and will be recognized as research and development expenses as goods are delivered and/or services are performed. The Company assesses such prepaid and other current assets for impairment if events or changes in circumstances indicate that the carrying amount may not be recoverable or may not provide future economic benefits. Further, the Work Plans include certain terms that require the Company to compensate Hovione if it chooses to cancel the Work Plans ("Cancellation Clause"). As of September 30, 2017 , $10.2 million is committed under the Cancellation Clause and the total aggregate amount of potential commitments, if all the services are rendered by Hovione, is approximately $28.1 million. As of September 30, 2017 and December 31, 2016, the Company has recorded approximately $4.5 million and $0.7 million, respectively as prepaid and other current assets and, during the three-month periods ended September 30, 2017 and 2016, has recognized $0.4 million and $0.2 million, respectively, and $1.9 million and $0.7 million, respectively, during the nine-month periods ended September 30, 2017 and 2016, as research and development expenses, related to the Work Plans.

In December 2016, the Company entered into an agreement with Hovione to procure certain long lead raw materials to be used in the commercial production of plazomicin (the "Raw Material Agreement"). The Raw Material Agreement includes $1.2 million in

nonrefundable advance payments. As of September 30, 2017 , the Company has recorded $1.2 milli on of these nonrefundable advance payments as research and development expense.

Facilities Lease Obligation

In August 2016, the Company entered into a non-cancelable agreement (the "Lease") to lease 47,118 square feet of office, laboratory and research and development space (the “Original Space”) for the Company's new principal executive offices in South San Francisco. In July 2017, the Company entered into an amendment (the “Lease Amendment”) to lease an additional 51,866 square feet of space (the “Expansion Space”) for a total of 98,984 square feet (the “Premises”). The Lease commenced in March 2017, after the substantial completion of certain improvements ("Tenant Improvements") required under the Lease and the Company moved into the Original Space in April 2017. The lease for 18,888 square feet of the Expansion Space commenced in August 2017 and the remainder is expected to begin by the end of the second quarter 2018. The lease term for the Premises is through January 31, 2028 (the “Lease Term”) and contains an option to extend the Lease Term for an additional 5 years. Base rent for the first year for the Original Space is approximately $2.9 million. The base rent increases approximately 3.5% in each subsequent year of the Lease Term. The Lease also provides for rent abatement of approximately $1.8 million and $2.0 million for the first year of the Lease Term for the Original Space and Expansion Space, respectively.

The Company has a one-time improvement allowance of $5.7 million for the Tenant Improvements (the "Original Allowance"). The Landlord disbursed the Original Allowance for the Tenant Improvements on behalf of the Company. At its election, the Company is also entitled to an additional improvements allowance of $0.9 million ("Original Additional Allowance"). Effective August 17, 2017, the Company elected to use the Original Additional Allowance and the base rent was increased by an aggregate of $1.7 million over the Lease Term. As of September 30, 2017, the Company has recorded approximately $6.6 million within leasehold improvements under property, plant and equipment, net and other current liabilities in the condensed consolidated balance sheet related to costs incurred under the Original Allowance and the Original Additional Allowance. The Lease Amendment provides for a one-time improvement allowance of $1.0 million for certain tenant improvements and, at its election, the Company is also entitled to an additional improvements allowance of $1.5 million (“Expansion Additional Allowance”). In the event the Company elects to use the Expansion Additional Allowance, the base rent will be increased as calculated in the Lease Amendment.

Pursuant to the Lease Amendment, the Company holds the option to pay the balance of the Original Additional Allowance and Expansion Additional Allowance in full any time within the first 36 months of the Lease Term. Further, the Company had deposits of $0.5 million included in long-term restricted cash as of September 30, 2017, restricted from withdrawal and held in a money market account with one of the Company’s financial institutions in the form of collateral for letters of credit held as security for the Lease and the Lease Amendment.

Future minimum lease payments under the operating leases as of September 30, 2017 are as follows (in thousands):

Year Ending December 31,	**Amounts**
2017	$ 272
2018	4,028
2019	6,201
2020	6,418
2021	6,644
Thereafter	45,657
Total minimum lease payments	$ 69,220

The Company recognizes rent expense on a straight-line basis over the non-cancelable lease period. Rent expense was $0.9 million and $0.1 million for the three-month periods ended September 30, 2017 and 2016, respectively, and $2.0 million and $0.4 million, respectively, for the nine-month periods ended September 30, 2017 and 2016.

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

The following discussion of our financial condition and results of operations should be read in conjunction with the condensed consolidated financial statements and the notes thereto included elsewhere in this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K for the year ended December 31, 2016.

In addition to historical information, this discussion and analysis contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These statements are often identified by the use of words such as "may," "will," "expect," "believe," "anticipate," "intend," "could," "should," "estimate," or "continue," and similar expressions or variations. These forward-looking statements are subject to risks and uncertainties, including those set forth in Part II – Other Information, Item 1A. Risk Factors below and elsewhere in this report, that could cause actual results to differ materially from historical results or anticipated results. The forward-looking statements in this Quarterly Report on Form 10-Q represent our views as of the date of this Quarterly Report on Form 10-Q. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this Quarterly Report on Form 10-Q.

Overview

We are a late-stage biopharmaceutical company passionately committed to the discovery, development, and commercialization of novel antibacterial treatments against multi-drug resistant ("MDR") gram-negative infections. We are researching and developing plazomicin, our lead product candidate, for the treatment of serious bacterial infections, including complicated urinary tract infection ("cUTI"), blood stream infections and other infections due to MDR Enterobacteriaceae, including carbapenem-resistant Enterobacteriaceae ("CRE"). In 2013, the Centers for Disease Control and Prevention identified CRE as a "nightmare bacteria" and an immediate public health threat that requires "urgent and aggressive action" and in 2017 the World Health Organization identified CRE as a Global Priority 1 Pathogen: Critical Need for Research and Development of New Antibiotics.

On December 12, 2016, we announced positive data from our two Phase 3 clinical trials for plazomicin. The first study, a Phase 3 trial of plazomicin for the treatment of patients with cUTI and acute pyelonephritis ("AP"), entitled EPIC (Evaluating Plazomicin In cUTI), is expected to serve as a single pivotal study required to support a new drug application ("NDA") for plazomicin in the United States. The Phase 3 EPIC trial is a randomized, double blind, active controlled study in patients with cUTI and AP and allowed broad enrollment of patients with gram-negative infections. We reached agreement with the U.S. Food and Drug Administration ("FDA") that this trial comparing plazomicin to meropenem with a 15% non-inferiority margin is acceptable as the single study required for potential approval. The first patient was enrolled in the Phase 3 EPIC trial in January 2016 and enrollment was closed in August 2016 with 609 patients.

In the EPIC trial, plazomicin successfully met or exceeded the objective of non-inferiority compared to meropenem for the FDA-specified primary efficacy endpoints, and achieved superiority for the primary efficacy endpoints specified by the European Medicines Agency ("EMA"). Results for the FDA pre-specified composite endpoint of clinical cure and microbiological eradication in the microbiological modified intent-to-treat ("mMITT") population at Day 5 achieved statistical non-inferiority, and Test-of-Cure (Day ~17) achieved statistical superiority. Results for EMA-specified endpoints of microbiological eradication at the test-of-cure visit achieved statistical superiority in both the mMITT and microbiologically evaluable ("ME") populations.

Plazomicin was generally well tolerated with no new safety concerns identified in the EPIC trial. As previously disclosed, total treatment emergent adverse events ("TEAEs") related to renal function were reported in 3.6% and 1.3% of patients in the plazomicin and meropenem groups, respectively. TEAEs related to cochlear or vestibular function were reported in a single patient in each of the plazomicin and meropenem treatment groups. Both events were considered mild and resolved completely.

The second study, our Phase 3 CARE (Combating Antibiotic Resistant Enterobacteriaceae) trial was a resistant pathogen trial designed to evaluate the efficacy and safety of plazomicin in patients with serious bacterial infections due to CRE. We closed enrollment in the CARE study in August 2016 with 69 patients, comprised of 39 patients enrolled in Cohort 1, comparing plazomicin to colistin-based therapy in patients with bloodstream infections or pneumonia due to CRE, and 30 patients in Cohort 2, a single arm cohort of plazomicin treatment in patients with serious infections due to CRE. In Cohort 1 of the CARE trial, a lower rate of mortality or serious disease-related complications was observed for plazomicin compared with colistin therapy.

The safety profile of plazomicin was favorable to that of colistin in critically ill patients in the CARE trial. As previously disclosed, study drug-related TEAEs related to renal function were reported in 16.7% and 38.1% of patients in the plazomicin and colistin groups, respectively. No TEAEs related to cochlear or vestibular function were reported in either group. However, due to the clinical status of patients enrolled in the trial who were frequently ventilated and unconscious, planned assessments of hearing and tinnitus were not possible for many of the patients.

On October 26, 2017, we announced the submission of an NDA to the FDA for plazomicin, seeking approval to treat cUTI, including AP and bloodstream infections due to certain Enterobacteriaceae in patients who have limited or no alternative treatment options. We expect a commercial launch of plazomicin in the United States in 2018, if our NDA is accepted and approved. We also plan to submit a Marketing Authorization Application to the EMA for plazomicin in 2018.

On May 23, 2017, we announced that, based on the results of the CARE study, the FDA granted Breakthrough Therapy designation for plazomicin for the treatment of bloodstream infections caused by certain Enterobacteriaceae, *Klebsiella pneumoniae* and *Enterobacter aerogenes* . Breakthrough Therapy designation is granted by the FDA to treat a serious condition and where preliminary clinical evidence demonstrates the drug may have substantial improvement on one or more clinically significant endpoints over available therapy. Breakthrough Therapy is intended to expedite the development and review of new therapies to treat such conditions. In 2012, the FDA granted fast-track designation for the development and regulatory review of plazomicin to treat serious and life-threatening CRE infections. In 2014, plazomicin received Qualified Infectious Disease Product ("QIDP") designation from the FDA. The QIDP designation was created by the Generating Antibiotic Incentives Now ("GAIN") Act, which was part of the FDA Safety and Innovation Act and provides certain incentives for the development of new antibiotics, including priority review and an additional five years of market exclusivity. We have global commercialization rights to plazomicin, which has patent protection in the United States estimated from 2030 to 2032.

We recently announced our orally-available antibacterial candidate, C-Scape, a combination of an approved β-lactam and an approved β-lactamase inhibitor. We believe that C-Scape has the potential to rapidly address a serious unmet need for an effective oral treatment for patients with cUTI, including AP, caused by ESBL-producing Enterobacteriaceae. We began a Phase 1 study in the second quarter of 2017. In the event the Phase 1 trial is successful, we intend to initiate a single pivotal Phase 3 study in patients with cUTI, including AP, who are suitable for treatment with oral antibiotics, in 2018. Our C-Scape program is now funded in part by a contract with the Biomedical Advanced Research and Development Authority ("BARDA") for up to $18.0 million, of which $12.0 million is committed.

During the third quarter of 2017, we decided to discontinue all research and development efforts on our preclinical intravenous and inhaled LpxC inhibitor programs for gram-negative pathogens. Our decision was driven by toxicity findings with the lead preclinical candidate that indicated we would not be able to achieve our target product profile.

Our therapeutic antibody program utilizes a built-for-purpose discovery platform to identify and develop monoclonal antibodies for the treatment of MDR bacterial infections and other significant unmet medical needs. To further support that program, we entered into a research agreement with the Bill & Melinda Gates Foundation (the "Gates Foundation") to discover drug candidates against gram-negative bacterial pathogens intended to prevent neonatal sepsis (the "Grant Agreement"). Pursuant to the Grant Agreement, the Gates Foundation awarded up to $10.5 million in grant funding over a three-year research term. We have other programs in early stages of research targeting MDR gram-negative bacterial infections.

Since our inception, we have financed our operations with the proceeds from our initial public offering ("IPO") of our common stock, proceeds from the underwritten public offering of our common stock, proceeds from sales of our common stock through the use of our at-the-market ("ATM") equity offering program, funding under our contracts with a non-profit foundation and government agencies, private placements of our equity securities and certain debt-related financing arrangements.

Our plazomicin program was, and our C-Scape program is, funded in part with a contract from BARDA. Our other programs are currently funded primarily with company funds. Historically, our preclinical programs have received funding support from organizations such as the National Institutes of Health, the U.S. Department of Defense, the Combating Antibiotic Resistant Bacteria Biopharmaceutical Accelerator ("CARB-X") and The Wellcome Trust, a global charitable foundation. We intend to continue to seek further collaborations with government agencies, non-profit foundations, and other research and development funding organizations to support our discovery efforts and advance the product candidates in our pipeline.

On March 17, 2014, we completed our IPO of common stock. We sold 6,900,000 shares of our common stock, which included 900,000 shares issued as a result of the underwriters exercising their over-allotment option in full. We received cash proceeds of approximately $73.9 million from the IPO, net of underwriting commissions and related expenses.

On April 7, 2015, we entered into the Sales Agreement (the "Sales Agreement") with Cowen and Company, LLC ("Cowen"), pursuant to which we may issue and sell shares of our common stock having aggregate sales proceeds of up to $30.0 million from time to time through an ATM equity offering program under which Cowen acts as sales agent. As of September 30, 2017, we had sold 1,105,549 shares under the Sales Agreement at an average price of $4.82 per share and we received aggregate cash proceeds of $5.1 million, after deducting the sales commissions and offering expenses.

On August 5, 2015, we entered into a loan and security agreement with Solar Capital Ltd., pursuant to which Solar Capital Ltd. agreed to make available to us term loans with an aggregate principal amount of up to $25.0 million, $15.0 million of which was provided to us on August 5, 2015 and $10.0 million of which was provided to us on June 20, 2016.

On May 26, 2016, BARDA exercised an additional option ("Option 3") under its existing contract, and we were awarded an additional $20.0 million in contract funding. Option 3 also includes a no-cost extension of the period of performance f or Option 1 to September 20, 2016, under the contract to support our Phase 3 EPIC trial of plazomicin. The funding from Option 3 is focused on the Phase 3 pivotal clinical trial of plazomicin, the EPIC study, in cUTI. In April 2017, BARDA modified Option 1 to allow for an additional $0.5 million of contract funding. This brings the total committed funding under the contract to $124.3 million.

On June 3, 2016, we sold 7,999,996 shares of common stock and warrants to purchase 1,999,999 shares of common stock pursuant to a Securities Purchase Agreement ("Purchase Agreement") for aggregate gross proceeds of $25.4 million and aggregate net proceeds of $25.1 million, after deducting the issuance costs, in a private placement financing transaction (the "Private Placement"). The warrants have an exercise price of $3.66 and are exercisable up to five years from the date of issuance.

On December 19, 2016, we completed an underwritten public offering of common stock, which resulted in the sale of 7,475,000 shares, at a price of $13.50 per share to the public, including the full exercise of the underwriters' option to purchase an additional 975,000 shares of common stock. We received net proceeds from the offering of $94.6 million, after deducting the underwriting discounts and commissions and estimated offering expenses.

On May 4, 2017, we entered into the Grant Agreement with the Gates Foundation and were awarded up to approximately $10.5 million in grant funding over a three-year research term, of which approximately $3.2 million of committed funding was received in May 2017 (the "Advance Funds"). Concurrently with the Grant Agreement, we entered into a Common Stock Purchase Agreement with the Gates Foundation, pursuant to which we agreed to sell 407,331 shares of our contingently redeemable common stock to the Gates Foundation in a private placement at a purchase price per share equal to $24.55, for gross proceeds to us of $10.0 million ("Gates Investment"). In connection with the Grant Agreement and Gates Investment, we entered into a strategic relationship with the Gates Foundation (the "Letter Agreement"). Under the terms of the Letter Agreement, the Gates Investment and Advanced Funds may only be used to conduct mutually agreed upon work, including the scale up of our antibody platform technology to launch a product intended to prevent neonatal sepsis (the "NSP"). Pursuant to the Letter Agreement, we agreed to make the NSP available and accessible in certain developing countries and to grant the Gates Foundation a non-exclusive license to commercialize selected drug candidates in certain developing countries, which may only be exercised in the event of certain defaults as described in the Letter Agreement (the "Global Access Commitments"). The Global Access Commitments will continue in effect until the earlier of 25 years from the closing of the Gates Investment or 7 years following the termination of all funding provided by the Gates Foundation; provided, that the Global Access Commitments will continue for any products or services developed with funding provided by the Gates Foundation which continue to be developed or available in certain developing countries.

On May 31, 2017, we completed an underwritten public offering of 5,750,000 shares of its common stock at a price to the public of $22.50 per share, including the closing of the full exercise of the underwriters' option to purchase an additional 750,000 shares of common stock on June 9, 2017. We received net proceeds from the offering of $121.2 million, after deducting the underwriting discounts and commissions and offering expenses.

In September 2017, we were awarded a contract ("C-Scape Contract") valued at up to $18.0 million in grant funding from BARDA to support the development of C-Scape. The C-Scape Contract includes a base period with committed funding of $12.0 million and subsequent option periods that, if exercised, would bring the total value of the award to $18.0 million.

We have never been profitable and have incurred net losses in each year since the commencement of our operations. Substantially all of our net losses have resulted from costs incurred in connection with our research and development programs and associated general and administrative costs. We expect to incur substantial losses from operations in the foreseeable future as we advance plazomicin and other product candidates through preclinical and clinical development, seek regulatory approval, and prepare for, if approved, commercialization. Management expects that, based on its current operating plans, our existing cash, cash equivalents and short-term investments, will be sufficient to fund our current planned operations for at least the next twelve months from the issuance of these financial statements. We will be required to obtain further funding through public or private equity offerings, debt financings, collaboration and licensing arrangements or other sources to invest in the commercial launch of plazomicin and continued progress with our research and development efforts. Adequate additional financing may not be available to us on acceptable terms, or at all. Our failure to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy. We perform all of our manufacturing in conjunction with third parties. Additionally, we currently utilize third-party clinical research organizations ("CROs") to carry out our clinical development and are building a sales organization. We will need substantial additional funding to support our operating activities and adequate funding may not be available to us on acceptable terms, or at all.

Financial Overview

Contract Revenue

We have derived all of our revenue to date from funding provided under a non-profit foundation and U.S. government contracts (collectively, the "Revenue Contracts") in connection with the development of our product candidates. Our product candidates are still in clinical and preclinical development and may never be successfully developed or commercialized. Other than this contract revenue from the Revenue Contracts, we do not expect to derive any revenue from any product candidates that we develop until we obtain regulatory approval and commercialize such products, which we do not expect will occur before 2018, if at all, or until such time that we potentially enter into collaboration agreements with third parties for the development and commercialization of such product candidates.

Bill & Melinda Gates Foundation. In May 2017, we entered into an agreement with the Gates Foundation to discover drug candidates against gram-negative bacterial pathogens intended to prevent neonatal sepsis. The Gates Foundation awarded up to approximately $10.5 million in grant funding over a three-year research term, of which approximately $3.2 million of funding was received in May 2017.

For the three-month and nine-month periods ended September 30, 2017, total revenue recognized under the Gates Foundation contract was $0.3 million and $0.5 million, respectively. We did not recognize any revenue from the Gates Foundation in 2016.

Biomedical Advanced Research and Development Authority (BARDA) . We have received funding for our lead product candidate, plazomicin, under a contract with BARDA, an agency of the U.S. Department of Health and Human Services, for the development, manufacturing, nonclinical and clinical evaluation of, and regulatory filings for, plazomicin as a countermeasure for disease caused by antibiotic-resistant pathogens and biothreats. Our BARDA contract provides for payments to us based on direct costs incurred and allowances for overhead, plus a fee, where applicable. The total committed funding under our BARDA contract is $124.3 million, including $20.0 million for Option 3, exercised by BARDA on May 26, 2016. The exercised option relates to the support of our Phase 3 EPIC study and the preparation and submission of an NDA to the FDA. In addition, in April 2017, BARDA modified Option 1 to allow for an additional $0.5 million of contract funding. Through September 30, 2017, a total of $124.3 million was recorded as revenue under this BARDA contract, with an insignificant amount of funding remaining.

In September 2017, BARDA awarded us funding to support the development, including Phase 1 and Phase 3 clinical studies and manufacturing and analytical testing, of C-Scape. This contract provides for payments to us based on direct costs incurred and allowances for overhead, plus a fee, where applicable. The total committed funding under this contract is $12.0 million, including subsequent option periods that, if exercised, would bring the total value of the award to $18.0 million. Through September 30, 2017, we recorded an insignificant amount as revenue, with $12.0 million remaining available from the funding currently committed under this contract.

For the three-month periods ended September 30, 2017 and 2016, total revenue recognized under these contracts were zero and $15.4 million, respectively, and $7.7 million and $29.2 million, respectively, for the nine-month periods ended September 30, 2017 and 2016.

National Institute of Allergy and Infectious Diseases (NIAID). In July 2014, the Company was awarded a one-year, $0.4 million grant by NIAID to conduct discovery research on novel antibiotics targeting gram-negative bacteria. The contract was subsequently modified to extend through July 31, 2016.

In July 2015, we were awarded a contract by NIAID to support the discovery and development of LpxC inhibitors for the treatment of bacterial infections for $1.5 million committed through June 30, 2016. In January 2016, an additional committed funding of $0.5 million was added. In April 2016, NIAID modified the contract to exercise the first option to increase the total contract committed funding to $4.4 million through February 2018. In April 2017, NIAID modified the contract to add committed funding of $0.3 million to the first option, bringing the total committed funding to $4.7 million. In June 2017, NIAID modified the contract to exercise the second option of $0.6 million, bringing the total committed funding to $5.3 million, of which $0.8 million remains available. We do not expect to draw further revenues under this contract.

For the three-month periods ended September 30, 2017 and 2016, total revenue recognized under the NIAID contracts was $0.3 million and $0.6 million, respectively, and $1.1 million and $1.8 million, respectively, for the nine-month periods ended September 30, 2017 and 2016.

Resea rch and Development Expenses

Research and development expenses consist primarily of costs associated with research, discovery and preclinical studies of potential new drug compounds, plus product development efforts related to clinical trials and materials manufacturing processes. Research and development costs are expensed as incurred and include the following:

- expenses incurred under agreements with contract research organizations, investigative sites, and consultants that conduct our clinical trials and a substantial portion of our preclinical activities;
- employee and consultant-related expenses, which include salaries, benefits, stock-based compensation and consulting fees;
- third-party supplier expenses including the cost of acquiring and manufacturing clinical trial and other materials; and
- facilities, depreciation and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities, amortization or depreciation of leasehold improvements, equipment and laboratory supplies and other expenses.

Advance payments for goods or services that will be used or rendered for future research and development activities are capitalized as prepaid expenses and recognized as an expense as the goods are delivered or the related services are performed.

We expect to continue to incur substantial expenses for the foreseeable future related to our research and development activities as we continue research programs and the development of our product candidates. Further, we have incurred substantial research and development costs associated with our plazomicin program. We expect to continue to incur substantial research and development expenses in the future as we continue to support plazomicin, C-Scape development and our pre-clinical pipeline.

General and Administrative Expenses

General and administrative expenses consist principally of personnel-related costs, professional fees for legal, consulting, audit and tax services, rent and other general operating expenses not otherwise included in research and development. We anticipate general and administrative expenses will continue to increase in future periods, reflecting an expanding infrastructure in preparation for commercialization of plazomicin, if approved.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of financial condition and results of operations are based upon our unaudited condensed financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses. On an on-going basis, we evaluate our critical accounting policies and estimates. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions and conditions. Our significant accounting policies are more fully described in Note 2 of the accompanying unaudited condensed consolidated financial statements and in Note 2 to our audited consolidated financial statements contained in our Annual Report on Form 10-K for the year ended December 31, 2016.

During the three-month and nine-month periods ended September 30, 2017, there were no material changes to our critical accounting policies. Our critical accounting policies are described under Management's Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K for the year ended December 31, 2016.

Results of Operations

Comparison of the Three-Month Periods Ended September 30, 2017 and 2016

	Three Months Ended September 30,		
	2017	2016	Change
Contract revenue	$ 577	$ 16,046	$ (15,469)
Operating expenses			
Research and development	25,316	20,536	4,780
General and administrative	11,805	4,460	7,345
Total operating expenses	37,121	24,996	12,125
Loss from operations	(36,544)	(8,950)	(27,594)
Interest expense	(740)	(670)	(70)
Change in warrant and derivative liabilities	6,773	(1,499)	8,272
Other income, net	604	81	523
Net loss	$ (29,907)	$ (11,038)	$ (18,869)

Contract Revenue

Contract revenue in each period related solely to funding pursuant to our Revenue Contracts. Contract revenue decreased $15.4 million to $0.6 million in the three-month period ended September 30, 2017 from $16.0 million in the comparable period in 2016. This decrease was primarily due to lower BARDA contract revenues.

Research and Development Expenses

Research and development expenses increased $4.8 million to $25.3 million in the three-month period ended September 30, 2017 from $20.5 million in the comparable period in 2016. This was primarily due to increases of $6.9 million in personnel and facility related costs as net headcount increased by 65 employees in our research and development organization since September 2016, including $1.1 million for stock compensation expense, $2.0 million in external expenses related to C-Scape, mainly attributed to costs for our Phase 1 study, $0.8 million in external non-clinical costs for other research programs, and partially offset by a decrease of $4.9 million in the external expenses related to our plazomicin program, mainly attributable to the completion of the Phase 3 studies.

We record research and development expenses by program where directly identifiable. In the table below, we have allocated indirect research and development costs based on time charged directly to programs by research and development employees. Indirect research and development costs include employee benefit expenses, employee time not charged directly to a program, laboratory supplies and expenses, and allocated facility expenses.

	Three Months Ended September 30,		
	2017	2016	Change
		(in thousands)	
Research and development expenses by program:			
Plazomicin	$ 15,499	$ 16,866	$ (1,367)
C-Scape	4,711	495	$ 4,216
Other research programs	5,106	3,175	1,931
Total research and development expenses	$ 25,316	$ 20,536	$ 4,780

General and Administrative Expenses

General and administrative expenses increased $7.3 million to $11.8 million for the three-month period ended September 30, 2017 from $4.5 million for the comparable period in 2016. The increase in general and administrative expenses was primarily due to an increase of $5.0 million in personnel and facility related costs, including $1.7 million for stock compensation expense, as net headcount increased by 33 employees, an increase of $1.3 million in costs to prepare for commercialization of plazomicin and $1.0 million in consulting and professional fees.

Interest Expense

Interest expense was $0.7 million for the three-month periods ended September 30, 2017 and 2016.

Change in Warrant and Derivati ve Liabilities

Change in warrant and derivative liabilities decreased by $8.3 million to a $6.8 million gain for the three-month period ended September 30, 2017 from a $1.5 million expense for the comparable period in 2016. The decrease is primarily due to the change in the estimated fair value of the warrant liability, which decreased mainly due to the change in our stock price.

Comparison of the Nine-Month Periods Ended September 30, 2017 and 2016

	Nine Months Ended September 30,		
	2017	2016	Change
Contract revenue	$ 9,306	$ 31,039	$ (21,733)
Operating expenses			
Research and development	66,113	56,137	9,976
General and administrative	27,415	12,188	15,227
Total operating expenses	93,528	68,325	25,203
Loss from operations	(84,222)	(37,286)	(46,936)
Interest expense	(2,170)	(1,555)	(615)
Change in warrant and derivative liabilities	(3,957)	(2,881)	(1,076)
Other income, net	1,114	219	895
Net loss	$ (89,235)	$ (41,503)	$ (47,732)

Contract Revenue

Contract revenue in each period related solely to funding pursuant to our Revenue Contracts. Contract revenue decreased $21.7 million to $9.3 million in the nine-month period ended September 30, 2017 from $31.0 million in the comparable period in 2016. This decrease was primarily due to lower BARDA contract revenues.

Research and Development Expenses

Research and development expenses increased $10.0 million to $66.1 million in the nine-month period ended September 30, 2017 from $56.1 million in the comparable period in 2016. This was primarily due to increases of $18.5 million in personnel and facility related costs as net headcount increased by 65 employees in our research and development organization since June 2016, including $3.1 million for stock compensation expense, of which $0.6 million of expense relate to equity awards held by our former Chief Medical Officer that were modified in connection with his resignation in March 2017, $5.4 million in external expenses related to C-Scape, mainly attributed to costs for our Phase 1 study, partially offset by a decrease of $0.4 million in external non-clinical costs for other research programs and a decrease of $13.5 million in the external expenses related to our plazomicin program, mainly attributable to the completion of the Phase 3 studies.

We record research and development expenses by program where directly identifiable. In the table below, we have allocated indirect research and development costs based on time charged directly to programs by research and development employees. Indirect research and development costs include employee benefit expenses, employee time not charged directly to a program, laboratory supplies and expenses, and allocated facility expenses.

	Nine Months Ended September 30,		
	2017	2016	Change
		(in thousands)	
Research and development expenses by program:			
Plazomicin	$ 40,949	$ 44,685	$ (3,736)
C-Scape	11,706	686	$ 11,020
Other research programs	13,458	10,766	2,692
Total research and development expenses	$ 66,113	$ 56,137	$ 9,976

General and Administrative Expenses

General and administrative expenses increased $15.2 million to $27.4 million for the nine-month period ended September 30, 2017 from $12.2 million for the comparable period in 2016. The increase in general and administrative expenses was primarily due to an increase of $11.0 million in personnel and facility related costs, including $3.2 million for stock compensation expense, as net headcount increased by 33 employees, an increase of $3.1 million in costs to prepare for commercialization of plazomicin and $1.1 million in consulting and professional fees.

Interest Expense

Interest expense increased $0.6 million to $2.2 million for the nine-month period ended September 30, 2017 from $1.6 million for the comparable period in 2016. The increase was a result of an additional $10.0 million of borrowings under the Solar Capital loan agreement in June 2016.

Change in Warrant and Derivative Liabilities

Change in warrant and derivative liabilities increased $1.1 million to $4.0 million for the nine-month period ended September 30, 2017 from $2.9 million for the comparable period in 2016. The increase is primarily due to the change in the estimated fair value of the warrant liability, which increased mainly due to the change in our stock price.

Liquidity and Capital Resources

	Nine Months Ended September 30,	
	2017	2016
	(in thousands)	
Cash Flows from Continuing Operations:		
Net cash used in operating activities	$ (62,838)	$ (34,996)
Net cash (used in) provided by investing activities	(42,967)	18,485
Net cash provided by financing activities	132,356	38,276
Net increase in cash, cash equivalents and restricted cash	$ 26,551	$ 21,765

Cash Flows from Operating Activities

Net cash used in operating activities was $62.8 million for the nine-month period ended September 30, 2017. The primary use of cash was to fund our operations related to the research and development of our product candidates and to prepare for commercialization of plazomicin. Our net loss from operations in the nine-month period ended September 30, 2017 of $89.2 million was partially offset by non-cash charges of $10.3 million for stock-based compensation, $4.0 million for the revaluation of the warrant and derivative liabilities, $0.7 million for depreciation and amortization, $0.6 million for non-cash interest expense, $0.1 million for loss on fixed asset disposition and a change in net operating assets and liabilities of $10.7 million. The change in net operating assets and liabilities was primarily due to a decrease in contract receivables, an increase in prepaid expenses and other assets, as a result of commitments and deferred research and development costs related to our commercial validation and manufacturing for plazomicin, partially offset by an increase in deferred revenue, as a result of the Advance Funds received under the grant agreement with the Gates Foundation.

Net cash used in operating activities was $35.0 million for the nine-month period ended September 30, 2016. The primary use of cash was to fund our operations related to the research and development of our product candidates. Our net loss from operations in the nine-month period ended September 30, 2016 of $41.5 million was partially offset by non-cash charges of $2.9 million for the revaluation of the warrant and derivative liabilities, $0.3 million for depreciation and amortization, $0.3 million for amortization of premium on short-term investments, $0.5 million for non-cash interest expense, $2.7 million for stock-based compensation, and a change in net operating assets and liabilities of $0.2 million. The change in net operating assets and liabilities was primarily due to an increase in accounts payable and accrued liabilities partially offset by an increase in contract receivable and prepaid expenses and other assets, as a result of costs for our ongoing Phase 3 EPIC trial and the timing of our payments.

Cash Flows from Investing Activities

Net cash used in investing activities was $43.0 million for the nine-month period ended September 30, 2017. The net cash used in investing activities during the nine-month period ended September 30, 2017 is primarily a result of purchases in excess of maturities of short-term investments of $37.7 million and purchases of property, plant and equipment of $5.3 million related to our move into new corporate headquarters and to facilitate our research and development activities.

Net cash provided by investing activities was $18.5 million for the nine-month period ended September 30, 2016. The net cash provided by investing activities during the nine-month period ended September 30, 2016 is primarily a result of maturities in excess of purchases of short-term investments of $18.9 million. Other uses of cash resulted from purchases of property, plant and equipment to facilitate our increased research and development activities.

Cash Flows from Financing Activities

Net cash provided by financing activities was $132.4 million and $38.3 million for the nine-month period ended September 30, 2017 and 2016, respectively. The net cash provided by financing activities during the nine-month period ended September 30, 2017

includes $121.2 million of net proceeds, after deducting the underwriting discounts and commissions, from an underwritten public offering of our common stock in May 2017, approximately $10.0 million of net proceeds, after deducting issuance costs, from the sale of contingently redeemable common stock to the Gates Foundation in May 2017, $1.8 million from the issuance of common stock pursuant to our equity incentive plans and $0.4 million of proceeds from the exercise of certain warrants issued from the Private Placement, partially offset by a $1.0 million principle repayment on the term loan provided by Solar Capital Ltd. The net cash provided by financing activities during the nine-month period ended Sep tember 30, 2016 includes $25.1 million for the sale of common stock and warrants to purchase common stock from the Private Placement, $10.0 million from the term loan provided by Solar Capital Ltd. in June 2016, $3.0 million through "at the market" offerin gs in which Cowen and Company, LLC acted as sales agent, and $0.2 million from issuance of common stock pursuant to our equity incentive plans.

Plan of Operations and Future Funding Requirements

We expect to incur substantial expenditures in the foreseeable future for research, development and potential commercialization of our product candidates. Specifically, we have incurred and we expect to continue to incur substantial expenses in connection with our clinical development of plazomicin and C-Scape, the advancement of our research and development programs and the preparation for commercialization of plazomicin. Management expects that, based on its current operating plans, our existing cash, cash equivalents and short-term investments as of September 30, 2017 will be sufficient to fund our current planned operations for at least the next twelve months from the issuance of these financial statements.

We anticipate that we will need to raise substantial additional financing in the future to fund our operations. We may obtain additional financing through public or private equity offerings, debt financings, a credit facility, government contracts and/or strategic collaborations. Additional financing may not be available to us when we need it or it may not be available to us on acceptable terms, if at all. Our ability to obtain debt financing may be limited by covenants we have made under our loan and security agreement with Solar Capital Ltd. and our pledge to Solar Capital Ltd. of substantially all of our assets, other than our intellectual property, as collateral. The negative pledge in favor of Solar Capital Ltd. with respect to our intellectual property under the loan and security agreement could further limit our ability to obtain additional debt financing. Our failure to raise capital as and when needed could have a negative impact on our financial condition and our ability to pursue our business strategies.

The amount and timing of our future financing requirements will depend on many factors, including:

- the size, timing and type of the nonclinical and clinical studies that we decide to pursue in the development of our product candidates, including plazomicin and C-Scape;
- the type, number, costs and results of the product candidate development programs which we are pursuing or may choose to pursue in the future;
- the rate of progress and cost of clinical trials we may commence, preclinical studies and other discovery and research and development activities;
- the costs associated with developing a plazomicin IVD assay to support therapeutic drug monitoring;
- the timing of, and costs involved in, seeking and obtaining FDA and other regulatory approvals, including any supplemental applications relating to our NDA for plazomicin;
- our ability to enter into additional collaboration, licensing or other arrangements and the terms and timing of such arrangements;
- the costs of preparing, filing, prosecuting, maintaining and enforcing any patent claims and other intellectual property rights, including litigation costs and the results of such litigation;
- the emergence of competing technologies and other adverse market developments;
- the resources we devote to marketing, and, if approved, commercializing our product candidates;
- the scope, progress, expansion, and costs of manufacturing our product candidates;
- our ability to enter into additional government contracts, or other collaborative agreements, to support the development of our product candidates and development efforts; and
- the costs associated with being a public company.

Contractual Obligations and Commitments

There have been no material changes to our contractual obligations and commitments as included in our Annual Report on Form 10-K, which was filed with the Securities and Exchange Commission (the "SEC") on March 14, 2017, except as noted below:

- In July 2017, we entered into a lease amendment (the "Lease Amendment") to our existing lease (the "Lease") to lease an additional 51,866 sqare feet of office, laboratory and research and development space located at our current principal executive offices. The amount of future minimum lease payments under the Lease and the Lease Amendment are $34.5 million and $34.7 million, respectively, for a total aggregate amount of $69.2 million. See Note 10 of the accompanying unaudited condensed consolidated financial statements for more information on the Lease and Lease Amendment.

- In March 2017, we executed certain work plans with Hovione Limited ("Hovione") to carry out our validation and commercial manufacturing of plazomicin (the "Work Plans"). The Work Plans include certain terms that require us to compensate Hovione if we choose to cancel the Work Plans ("Cancellation Clause"). The total aggregate amount of potential commitments under the Work Plans is approximately $28.1 million, of which $10.2 million is committed under the Cancellation Clause, as of September 30, 2017. See Note 10 of the accompanying unaudited condensed consolidated financial statements for more information.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

There have not been any material changes to our exposure to market risk during the three-month and nine-month periods ended September 30, 2017. For additional information regarding market risk, refer to the *Quantitative and Qualitative Disclosures About Market Risk* section of our Annual Report on Form 10-K for the year ended December 31, 2016.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act refers to controls and procedures that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. 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 our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their control objectives.

Our management, with the participation of our Chief Executive Officer and Principal Financial and Accounting Officer, has evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2017, the end of the period covered by this Quarterly Report on Form 10-Q. Based upon such evaluation, our Chief Executive Officer and Principal Financial and Accounting Officer have concluded that our disclosure controls and procedures were not effective at the reasonable assurance level as of such date. This conclusion was based on the material weakness in our internal control over financial reporting further described below.

Material Weakness

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim consolidated financial statements will not be prevented or detected and corrected on a timely basis. In connection with the preparation of our interim financial statements for the quarter ended June 30, 2017, we identified a material weakness in our internal control over financial reporting related to a design deficiency in our internal controls over the preparation and review of our earnings per share calculation. Specifically, our controls were not adequately designed to ensure that all potentially dilutive securities were accurately reflected in the calculation of our diluted earnings per share.

Despite the existence of this material weakness, we believe that the consolidated financial statements included in this Quarterly Report on Form 10-Q present fairly, in all material respects, our financial position, results of operations, comprehensive loss and cash flows for the periods presented in conformity with U.S. GAAP.

Remediation Efforts to Address Material Weakness

We have prepared a remediation plan to address the underlying causes of the material weakness described above. The remediation plan is in progress and includes;

- Reassessing the design and operation of internal controls over financial reporting, including setting up a model with sufficient detail to ensure that all potentially dilutive securities were accurately reflected in the calculation of our diluted earnings per share;
- Training of accounting personnel to further educate the staff on the accounting of new and ongoing complex and/or technical transactions relevant to us; and
- Increasing staffing levels and expertise to implement this remediation plan.

We cannot assure you that the measures we may take in response to this material weakness will be sufficient to remediate such material weakness or to avoid potential future material weaknesses.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting that occurred during the period covered by this Quarterly Report on Form 10-Q that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHE R INFORMATION

Item 1. Legal Proceedings.

We are not currently a party to any material litigation or other material legal proceedings.

Item 1A. Risk Factors.

Risks Related to Our Business and Capital Requirements

We have a limited operating history, have incurred net losses in each year since our inception and anticipate that we will continue to incur significant losses for the foreseeable future, and if we are unable to achieve and sustain profitability, the market value of our common stock will likely decline.

We are a late-stage biopharmaceutical company with a limited operating history. We have not generated any revenue from the sale of products and have incurred losses in each year since we commenced operations in 2004. All of our product candidates are in development, and none has been approved for sale. In the years ended December 31, 2016 and 2015 and the nine-month period ended September 30, 2017, we derived all of our revenue from non-profit foundation and government contracts for research and development. We will seek continued revenue from such contracts and additional sources of public health funding. Revenues from such contracts and other sources can be uncertain because milestones or other contingent payments under them may not be achieved or received. In addition, we may not be able to enter into other contracts that will generate significant cash. Our net losses for the years ended December 31, 2016 and 2015 were $71.2 million and $27.1 million, respectively. Our net losses for the nine-month periods ended September 30, 2017 and 2016 were $89.2 million and $41.5 million, respectively. As of September 30, 2017, we had an accumulated deficit of $336.5 million.

We expect to continue incurring significant expenses and increasing operating losses for the foreseeable future as we seek marketing approvals from the U.S. Food and Drug Administration ("FDA") and similar regulatory authorities outside the United States, build commercial supply and conduct pre-marketing activities for plazomicin, and continue the development of our other product candidates, including C-Scape. Our expenses will also increase substantially if and as we:

- conduct additional clinical trials for our product candidates;
- continue to discover and develop additional product candidates;
- establish a sales, marketing and distribution infrastructure to commercialize any product candidates for which we may obtain marketing approval;
- establish a manufacturing and supply chain sufficient for commercial quantities of any product candidates for which we may obtain marketing approval;
- maintain, expand and protect our intellectual property portfolio;
- hire additional clinical, scientific and commercial personnel;
- add operational, financial and management information systems and personnel, including personnel to support our product development and planned future commercialization efforts, as well as operating as a public reporting company; and
- acquire or in-license other product candidates and technologies.

If our product candidates fail to demonstrate safety and efficacy in clinical trials, do not gain regulatory approval, or do not achieve market acceptance following regulatory approval and commercialization, we may never become profitable. Even if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods. Our prior losses, combined with expected future losses, have had and will continue to have an adverse effect on our stockholders' equity and working capital. If we are unable to achieve and sustain profitability, the market value of our common stock will likely decline. Because of the numerous risks and uncertainties associated with developing biopharmaceutical products, we are unable to predict the extent of any future losses or when, if ever, we will become profitable.

We are substantially dependent on the approval and success of our lead product candidate, plazomicin. If we are unable to obtain marketing approval for and succes sfully commercialize plazomicin, or experience significant delays in doing so, our business could be materially harmed.

We currently have no products approved for sale, and since 2007, we have invested a significant portion of our efforts and financial resources in the development of plazomicin. Our future success is substantially dependent on our ability to successfully develop, obtain regulatory approval for and, ultimately, successfully commercialize plazomicin. Our ability to develop, obtain regulatory approval for, and successfully commercialize plazomicin effectively will depend on several factors, including the following:

- receipt of marketing approvals from the FDA and similar regulatory authorities outside the United States;
- receiving the product labeling that enables the successful promotion of plazomicin;
- satisfying post-approval conditions or suggestions, if any, based on discussions with FDA;
- establishing commercial manufacturing and supply arrangements;
- establishing a commercial infrastructure;
- identifying and successfully establishing one or more collaborations to commercialize plazomicin;
- acceptance of the product by patients, the medical community and third-party payors;
- establishing market share while competing with other therapies;
- successfully executing our pricing and reimbursement strategy;
- a continued acceptable safety and adverse event profile of the product following regulatory approval; and
- qualifying for, identifying, registering, maintaining, enforcing and defending intellectual property rights and claims covering the product.

In addition, our product development and commercialization program includes the development of an *in vitro* diagnostic ("IVD") assay or related diagnostic which must be developed and would need to successfully complete a clinical performance study in order to be approved or cleared for marketing by the FDA and certain other foreign regulatory agencies and then be commercialized concurrently with plazomicin in the associated markets for the appropriate populations. If we are unable to develop, receive marketing approval for plazomicin or an IVD assay in a timely manner or at all, we could experience significant delays to successfully commercialize plazomicin, which would materially and adversely affect our business, financial condition, and results of operations.

We will need substantial additional funding. If we are unable to raise capital when needed, we could be forced to delay, reduce or terminate our product development, other operations or commercialization efforts and this would impact our status as a going concern.

Developing biopharmaceutical products, including conducting preclinical studies and clinical trials, is an expensive and highly uncertain process that takes years to complete. We expect our expenses to increase substantially as we seek marketing approval for our lead product candidate, plazomicin, and continue the development of our other product candidates. If we obtain marketing approval of plazomicin, we also expect to incur significant sales, marketing, manufacturing and supply expenses.

As of September 30, 2017, we had working capital of $182.8 million and unrestricted cash, cash equivalents and short-term investments of $199.4 million. Management expects that, based on its current operating plans, our existing cash, cash equivalents and short-term investments as of September 30, 2017, will enable us to fund our current planned operations for at least the next twelve months. In addition, other factors may arise causing us to need additional capital resources sooner than anticipated. We anticipate that we will need to raise substantial additional funds in the future to fund our operations.

We may obtain additional financing through multiple sources, including but not limited to public or private equity offerings, debt financings, a credit facility, government contracts and/or strategic collaborations. Additional financing may not be available to us when we need it or it may not be available to us on acceptable terms, if at all. Our ability to obtain debt financing may be limited by covenants we have made under our loan and security agreement with Solar Capital Ltd. and our pledge to Solar Capital Ltd. of substantially all of our assets, other than our intellectual property, as collateral. The negative pledge in favor of Solar Capital Ltd. with respect to our intellectual property under the loan and security agreement could further limit our ability to obtain additional debt

financing. Our failure to raise capital as and when needed could have a negative impact on our financial condition and our ability to pursue our business strategies. The amount and timing of our f uture financing requirements will depend on many factors, including:

- the size, timing and type of the nonclinical and clinical studies that we decide to pursue in the development of our product candidates, including plazomicin;
- the type, number, costs and results of the product candidate development programs that we are pursuing or may choose to pursue in the future;
- the rate of progress and cost of clinical trials we may commence, preclinical studies and other discovery and research and development activities;
- the costs associated with developing a plazomicin IVD assay or related diagnostic to support therapeutic drug monitoring;
- the timing of, and costs involved in, seeking and obtaining FDA and other regulatory approvals, any supplemental applications relating to our new drug application ("NDA") for plazomicin;
- our ability to enter into additional collaboration, licensing or other arrangements and the terms and timing of such arrangements;
- the costs of preparing, filing, prosecuting, maintaining and enforcing any patent applications or claims and other intellectual property rights, including litigation costs and the results of such litigation;
- the emergence of competing technologies and other adverse market developments;
- the resources we devote to marketing, and, if approved, commercializing our product candidates;
- the scope, progress, expansion, and costs of manufacturing our product candidates;
- our ability to enter into additional government contracts, or other collaborative agreements, to support the development of our product candidates and development efforts; and
- the costs associated with being a public company.

Future capital requirements will also depend on the extent to which we acquire or invest in additional complementary businesses, products and technologies. We currently have no understandings, commitments or agreements relating to any of these types of transactions.

If we are unable to raise additional funds when needed, we may be required to delay, reduce, or terminate some or all of our development programs and clinical trials and we may not be able to continue as a going concern. We may also be required to sell or license to others technologies or clinical product candidates or programs that we would prefer to develop and commercialize ourselves.

Clinical drug development involves a lengthy and expensive process with uncertain outcomes that may lead to delayed timelines and increased cost, and may prevent us from being able to complete clinical trials.

Clinical testing is expensive, can take many years to complete, and its outcome and timeline is inherently uncertain. The results of preclinical and clinical studies of our product candidates may not be predictive of the results of later-stage clinical trials. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy despite having progressed through preclinical studies and initial clinical trials. A number of companies in the pharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier studies, and we cannot be certain that we will not face similar setbacks.

We submitted an NDA for plazomicin in October 2017, with a planned commercial launch of plazomicin in the U.S. in 2018, if our NDA is accepted and approved. We also plan to submit a Marketing Authorization Application to the European Medicines Agency ("EMA") for plazomicin in 2018.

We plan to submit the results to a peer-reviewed journal in 2017. Based on physician market research, we believe the Phase 3 CARE study will provide important and meaningful data regarding the efficacy, safety, microbiology, and dosing, as well as important health economic data, to better inform use of plazomicin in the treatment of patients with CRE infections.

We cannot be certain that our future clinical trials for plazomicin, C-Scape, or other product candidates, will progress as expected, not need to be redesigned, enroll an adequate number of patien ts on time or be completed on schedule, if at all, or support continued clinical development of the associated product candidate.

Clinical trials can be delayed, aborted or fail for a variety of reasons, including delay or failure:

- to obtain regulatory approval to commence a trial in the countries where the trial is to be conducted;
- to successfully initiate a clinical trial, enroll patients, and complete clinical trial activities in foreign countries;
- to recruit and enroll suitable patients to participate in a trial;
- to reach agreement on acceptable terms with prospective contract research organizations ("CROs"), clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- to obtain institutional review board ("IRB") approval at each site;
- to have patients complete a trial or return for post-treatment follow-up;
- of clinical sites to adhere to trial protocols or continue to participate in a trial;
- to address any patient safety concerns that arise during the course of a trial;
- to address any conflicts with new or existing laws or regulations;
- to add a sufficient number of clinical trial sites;
- to manufacture sufficient quantities of product supply for use in clinical trials; or
- to ensure clinical trial sites comply with Good Clinical Practice ("GCP") guidelines.

Enrollment delays in our clinical trials may result in increased development costs for our product candidates, slow down or halt our product development and approval processes, and jeopardize our ability to commence product sales and generate revenue, which would cause the value of our company to decline and limit our ability to obtain additional financing if needed. Patient enrollment in clinical trials is a function of many factors, including: the nature of clinical trial protocols, existence of competing protocols or treatments (if any), the size and longevity of the target patient population, proximity of patients to clinical sites and eligibility criteria for the clinical trials. Although we will continue to look for opportunities for faster regulatory approval of plazomicin or our other product candidates, we cannot guarantee that additional opportunities will arise, that the FDA or other regulatory authorities will agree with any additional proposals we make or that such additional proposals, even if approved, will be successful.

We could also encounter delays if a clinical trial is suspended or terminated by us upon recommendation of the data monitoring committee for such trial, by the IRBs of the institutions in which such trials are being conducted, or by the FDA or other regulatory authorities. Such authorities may suspend or terminate a clinical trial due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a drug, changes in governmental regulations or administrative actions, or lack of adequate funding to continue the clinical trial.

If we experience delays in the completion of, or termination of, any clinical trial of our product candidates, the commercial prospects of our product candidates may be harmed, and our ability to generate revenue from the sale of any of these product candidates will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow down our product candidate development and approval processes, and jeopardize our ability to commence product sales and generate revenue. Any of these occurrences may significantly harm our business, financial condition and prospects.

The revisions to our Phase 3 CARE trial protocol did not allow it to be powered to demonstrate a superiority outcome and the FDA, the EMA and other regulatory authorities as well as physicians and other third parties may not consider the data from our Phase 3 CARE trial to be supportive of plazomicin's potential to address serious bacterial infections caused by CRE.

Cohort 1 of our Phase 3 CARE trial was originally planned and the size estimated based on a superiority design. We decided to reduce the planned enrollment of our Phase 3 CARE trial. However, with this reduced sample size, the study was not powered to demonstrate superiority. Our ability to claim certain of the market and label benefits that a successful superiority trial would have provided, are reduced because we completed Cohort 1 of the trial with a reduced enrollment size in our Phase 3 CARE trial. Further,

because of this, the FDA, the EMA and other regulatory authorities as well as physicians and other thi rd parties may not consider the data from our Phase 3 CARE trial to be supportive of plazomicin's potential to address serious bacterial infections caused by CRE.

Failure to successfully develop, validate and obtain regulatory clearance or approval of a plazomicin IVD assay or related diagnostic could harm our development and commercialization strategy for plazomicin for the treatment of serious bacterial infections caused by CRE.

An important element of our development and commercialization strategy for plazomicin for the treatment of serious bacterial infections caused by CRE is the development of an IVD assay or related diagnostic to support the Therapeutic Drug Management ("TDM") of patients dosed with plazomicin; the plazomicin IVD assay is intended to measure levels of plazomicin in the blood so patients can receive safe and efficacious doses of plazomicin. In collaboration with ARK Diagnostics, Inc. ("ARK"), we previously co-developed such an assay for use in our Phase 3 CARE study and we are currently co-developing and intend to commercialize an assay capable of use with plazomicin, if approved.

We, and our partner, Microgenics Corporation (a part of Thermo Fisher Scientific, Inc.) ("Thermo Fisher") are co-developing a diagnostic assay for plazomicin and intend to work together to generate the data required for submission of either a 510(k) submission or a Premarket Approval (PMA) application to the FDA. The ability to collect such data and to prepare such a submission can be impacted by a variety of financial, clinical, and regulatory factors that could impact our timing and the ultimate availability of such an assay.

IVD assays can be subject to regulation by the FDA and comparable foreign regulatory authorities as medical devices and therefore require separate regulatory clearance or approval prior to commercialization. The development of a new IVD assay for a novel therapeutic such as plazomicin can be complex from an operational and regulatory perspective because of the need for both the drug and the diagnostic to receive regulatory clearance or approval. Should the regulatory clearance or approval process for our IVD assay be delayed, it could impact our ability to successfully commercialize plazomicin for the treatment of certain patients.

It may be necessary to resolve issues such as selectivity/specificity, analytical validation, reproducibility, or clinical validation of a plazomicin assay during the development and regulatory approval process. We, or our other current or future collaboration partners may encounter difficulties in developing, obtaining regulatory clearance or approval for, and manufacturing of, an assay with appropriate quality standards, similar to those we face with respect to our drug product candidates themselves. Failure to overcome these hurdles could have an adverse effect on our ability to obtain regulatory clearance or approval for or to obtain market acceptance for and to commercialize an IVD assay or plazomicin.

If the FDA does not conclude that our product candidate, C-Scape, satisfies the requirements for the 505(b)(2) regulatory approval pathway, or if the requirements for approval under Section 505(b)(2) are not as we expect, the approval pathway for C-Scape will likely take significantly longer, cost significantly more and encounter significantly greater complications and risks than anticipated, and in any case may not be successful.

We intend to pursue clinical trials and, if successful, seek FDA approval through the 505(b)(2) regulatory pathway for our product candidate, C-Scape, which is a combination of two previously FDA-approved drugs. The Drug Price Competition and Patent Term Restoration Act of 1984, also known as the Hatch-Waxman Act, added Section 505(b)(2) to the Federal Food, Drug and Cosmetic Act, or FDCA. Section 505(b)(2) permits the filing of an NDA where at least some of the information required for approval comes from studies that were not conducted by or for the applicant and for which the applicant has not obtained a right of reference. If the FDA does not allow us to pursue the 505(b)(2) regulatory pathway for C-Scape as anticipated, we may need to conduct additional clinical trials beyond our current expectations, provide additional data and information and meet additional standards for regulatory approval. If this were to occur, the time and financial resources required to obtain FDA approval for C-Scape would likely substantially increase. Moreover, the inability to pursue the 505(b)(2) regulatory pathway could result in new competitive products reaching the market faster than C-Scape, which could materially adversely impact our competitive position and prospects. Even if we are allowed to pursue the 505(b)(2) regulatory pathway for C-Scape, we cannot assure you that we will receive the requisite or timely approvals for commercialization of such product candidate. In addition, it is possible competitors or others will file citizens' petitions with the FDA in an attempt to persuade the FDA that C-Scape, or the clinical studies that support their approval, contain deficiencies. Such actions by our competitors or others could delay or even prevent the FDA from approving any NDA that we submit under Section 505(b)(2).

If we fail to demonstrate the safety and efficacy of plazomicin or any other product candidate that we develop to the satisfaction of the FDA or comparable foreign regulatory authorities we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of plazomicin or such other product candidate. This would adversely impact our ability to generate revenue, our business and our results of operations.

We are not permitted to commercialize, market, promote, or sell any product candidate in the United States without obtaining marketing approval from the FDA or in other countries without obtaining approvals from comparable foreign regulatory authorities,

such as the EMA, and we may never receive such approvals. To gain approval to market a drug product, we must complete ext ensive preclinical development and clinical trials that demonstrate the safety and efficacy of the product for the intended indication to the satisfaction of the FDA or other regulatory authority.

In October 2017, we submitted an NDA to the FDA for plazomicin seeking approval to treat cUTI, including AP and bloodstream infections due to certain Enterobacteriaceae in patients who have limited or no alternative treatment options. This is the first NDA we have submitted and we have not previously had any NDAs accepted for filing or submitted similar drug approval filings to comparable foreign authorities, for any product candidate. We cannot be certain that the plazomicin NDA will be accepted or that plazomicin will receive regulatory approval. Further, plazomicin may not receive regulatory approval even though it was successful in certain clinical trials. If we do not receive regulatory approval for plazomicin, we may not be able to continue our operations. Even if we successfully obtain regulatory approval to market plazomicin, our revenue from this approval will be dependent, in part, upon our or a commercial partner's ability to obtain regulatory approval of an IVD assay to be used with plazomicin for the treatment of serious bacterial infections caused by CRE, as well as upon the size of the markets in the territories for which we gain regulatory approval and have commercial rights.

The FDA or any foreign regulatory agencies can delay, limit, or deny approval of plazomicin for many reasons, including:

- our inability to demonstrate to the satisfaction of the FDA or the applicable foreign regulatory agency that plazomicin is safe and effective for the requested indication;
- our inability to demonstrate that plazomicin fits an appropriate profile in interacting with other possible drugs or treatment regimens;
- the FDA's or the applicable foreign regulatory agency's disagreement with the interpretation of data from preclinical studies or clinical trials;
- our inability to demonstrate that the clinical and other benefits of plazomicin outweigh any safety or other perceived risks;
- the FDA's or the applicable foreign regulatory agency's requirement for additional preclinical or clinical studies;
- the FDA's or the applicable foreign regulatory agency's non-approval of the formulation, labeling or the specifications of plazomicin;
- the FDA's or the applicable foreign regulatory agency's failure to approve the manufacturing processes or facilities of third-party manufacturers with which we contract;
- the potential for approval policies or regulations of the FDA or the applicable foreign regulatory agencies to significantly change in a manner rendering our clinical data insufficient for approval; or
- failure to adequately demonstrate study conduct oversight, ensure data integrity, and that clinical study sites complied with the principles of Good Clinical Practice, such that we do not pass pre-approval inspections by the FDA or other foreign regulatory agencies.

Even if we complete clinical testing and receive approval of an NDA or foreign regulatory filing for plazomicin, the FDA or the applicable foreign regulatory agency may grant approval contingent on the performance of costly additional clinical trials which may be required after approval. The FDA or the applicable foreign regulatory agency also may approve plazomicin for a more limited indication or a narrower patient population than we originally requested, and the FDA, or applicable foreign regulatory agency, may not approve the labeling that we believe is necessary or desirable for the successful commercialization of plazomicin. For example, our NDA for plazomicin is initially based on our Phase 3 EPIC trial and that, if our NDA is approved, we anticipate the U.S. label will indicate that plazomicin is for use in patients with infections that have limited or no alternative treatment options. In addition, we believe that the label will include *in vitro* data against antibiotic resistant pathogens in the microbiology section of the drug label. However, the FDA may approve a label that omits this *in vitro* data or that limits plazomicin to a more limited indication or narrower patient population, which may harm our ability to successfully commercialize plazomicin, if approved. Any delay in obtaining, or inability to obtain, applicable regulatory approval would delay or prevent commercialization of plazomicin and would materially adversely impact our business and prospects. Any other product candidate we advanced to the marketing approval stage would also be subject to the risks delineated above.

Serious adverse events or other unexpected properties of plazomicin, C-Scape, or any other product candidate may be identified during development or after approval that could delay, prevent or cause the withdrawal of regulatory approva l, limit the commercial potential, or result in significant negative consequences following marketing approval.

Serious adverse events or undesirable side effects caused by, or other unexpected properties of, our product candidates could result in a more restrictive label, the imposition of distribution or use restrictions or the delay or denial of regulatory approval by the FDA or comparable foreign regulatory authorities. If plazomicin or any of our other product candidates are associated with serious adverse events or undesirable side effects or have properties that are unexpected, we may need to abandon their development or limit development 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.

To date, plazomicin has generally been well tolerated in clinical trials conducted in healthy subjects, subjects with renal impairment, and in patients with cUTI, and in patients with serious infections due to CRE and there have been no reports of serious adverse events related to plazomicin in our completed clinical trials. Toxicity in the kidneys and inner ear are the most significant identified risks for plazomicin, which are well-known risks for the aminoglycoside class of antibiotics. Hypotension is also a potential risk for plazomicin.

Undesirable side effects or other unexpected adverse events or properties of plazomicin or any of our other product candidates could arise or become known either during clinical development or, if approved, after the approved product has been marketed. If such an event occurs during development, our trials could be suspended or terminated and the FDA or comparable foreign regulatory authorities could order us to cease further development of, or deny approval of, plazomicin or our other product candidates. If such an event occurs after plazomicin or such other product candidates are approved, a number of potentially significant negative consequences may result, including:

- regulatory authorities may withdraw the approval of such product;
- regulatory authorities may require additional warnings on the label or impose distribution or use restrictions;
- regulatory authorities may require one or more post-market studies;
- we may be required to create a medication guide outlining the risks of such side effects for distribution to patients;
- we could be sued and held liable for harm caused to patients;
- healthcare providers may choose to treat patients with other drugs; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product candidate, if approved, or could substantially increase commercialization costs and expenses, which could delay or prevent us from generating revenue from the sale of our products and harm our business and results of operations.

We cannot predict to what extent bacteria may develop resistance to plazomicin, C-Scape, or how resistance could spread, which could affect the revenue potential for plazomicin.

We are developing plazomicin to treat multi-drug resistant ("MDR") infections. The bacteria responsible for these infections evolve quickly and readily transfer their resistance mechanisms within and between species. Furthermore, some resistance to plazomicin already exists and we cannot predict how the prevalence of bacterial resistance to plazomicin will change over time.

As with some other commercially available aminoglycosides, plazomicin is not active against organisms expressing a resistance mechanism known as ribosomal methyltransferase. Although occurrence of this resistance mechanism among CRE varies regionally and is currently rare in the United States, there have been isolated cases of infections by bacteria carrying ribosomal methyltransferase in the United States. We cannot predict whether ribosomal methyltransferase will become widespread in regions where we intend to market plazomicin if it is approved. The growth of MDR infections in community settings or in countries with poor public health infrastructures, or the potential use of plazomicin outside of controlled hospital settings, could contribute to the rise of plazomicin resistance. If resistance to plazomicin becomes prevalent, our ability to generate revenue from plazomicin could suffer.

We may become dependent on our partner Thermo Fisher to commercialize an IVD assay.

We have entered into a collaboration with Thermo Fisher for the development and commercialization of a plazomicin IVD assay, we may be dependent on Thermo Fisher with respect to such manufacturing and supply and with respect to commercialization

in the United States and the EU. This reduces our control over these activities but would not relieve us of our responsibility to ensure compliance with all required legal, regulator y and scientific standards with respect to plazomicin.

We or Thermo Fisher may encounter difficulties in developing an assay for commercial application in one or more countries, including issues in relation to automation, selectivity/specificity, analytical validation, reproducibility, or clinical validation of such assay. If Thermo Fisher does not perform its contractual duties or obligations, experiences work stoppages, does not meet expected deadlines, terminates its agreements with us or needs to be replaced, or if they otherwise do not meet our expectations for development, manufacture or commercialization of the assay, we may need to enter into new arrangements with one or more alternative third parties for development, manufacture or commercialization of the assay or an alternative assay. We may not be able to do so on commercially reasonably terms, or within the terms of the commercialization agreement without amending such terms, or at all, which could adversely impact our business and results of operations related to plazomicin for the treatment of serious bacterial infections caused by CRE.

If we are not successful in discovering, developing and commercializing additional product candidates, our ability to expand our business and achieve our strategic objectives would be impaired.

Although a substantial amount of our efforts is focused, and will continue to be focused, on the potential approval of our lead product candidate, plazomicin, a key element of our strategy is to discover, develop and commercialize a portfolio of therapeutics to treat MDR bacterial infections and potentially additional disease areas. We are seeking to do so through our internal research programs and are exploring, and intend to explore in the future, strategic partnerships for the development of new products. Other than plazomicin and C-Scape, all of our other potential product candidates remain in the discovery and preclinical stages.

Research programs to identify product candidates require substantial technical, financial and human resources, whether or not any product candidates are ultimately identified. Our research programs may initially show promise in identifying potential product candidates, yet fail to yield product candidates for clinical development for many reasons, including the following:

- the research methodology used may not be successful in identifying potential product candidates;
- we may be unable to successfully modify candidate compounds to be active in gram-negative bacteria or defeat bacterial resistance mechanisms or identify viable product candidates in our screening campaigns;
- competitors may develop alternatives that render our product candidates obsolete;
- product candidates we develop may nevertheless be covered by third party patents or other exclusive rights;
- a product candidate may, on further study, be shown to have harmful side effects or other characteristics that indicate it is unlikely to be effective or otherwise does not meet applicable regulatory criteria;
- a product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all;
- a product candidate may not be accepted as safe and effective by patients, the medical community or third-party payors; and
- the development of bacterial resistance to potential product candidates may render them ineffective against target infections.

We cannot guarantee that these efforts will be successful. If we identify viable product candidates, we would have to submit a new IND application for any compound we seek to advance to clinical trials.

If we are unsuccessful in identifying and developing additional product candidates, our potential for growth may be impaired.

Even if a product candidate does obtain regulatory approval it may never achieve market acceptance by p hysicians, patients, hospitals, third-party payors and others in the medical community necessary for commercial success and the market opportunity may be smaller than we estimate.

Even if we obtain FDA or other regulatory approvals, and are able to launch plazomicin or any other product candidate commercially, the product candidate may not achieve market acceptance among physicians, patients, hospitals (including pharmacy directors) and third-party payors and, ultimately, may not be commercially successful. Market acceptance and market opportunity of any product candidate for which we receive approval depends on a number of factors, including:

- the efficacy and safety of the product candidate as demonstrated in clinical trials;
- relative convenience and ease of administration;
- the clinical indications for which the product candidate is approved;
- the potential and perceived advantages and disadvantages of the product candidates, including cost and clinical benefit relative to alternative treatments;
- the willingness of physicians to prescribe the product;
- the willingness of hospital pharmacy directors to purchase our products for their formularies;
- acceptance by physicians, operators of hospitals and treatment facilities and parties responsible for reimbursement of the product;
- the availability of adequate coverage and reimbursement by third-party payors and government authorities;
- the effectiveness of our sales and marketing efforts;
- the strength of our marketing and distribution support;
- limitations or warnings, including distribution or use restrictions, contained in the product's approved labeling or an approved risk evaluation and mitigation strategy;
- growth of CRE infections;
- whether the product is designated under physician treatment guidelines as a first-line therapy or as a second- or third-line therapy for particular infections;
- the approval of other new products for the same indications;
- the timing of market introduction of the approved product as well as competitive products;
- adverse publicity about the product or favorable publicity about competitive products;
- the emergence of bacterial resistance to the product candidate; and
- the rate at which resistance to other drugs in the target infections grow.

Any failure by plazomicin or any other product candidate that obtains regulatory approval to achieve market acceptance or commercial success would adversely affect our business prospects.

The availability of adequate third-party coverage and reimbursement for approved products is uncertain, and failure to obtain adequate coverage and reimbursement from government and other third-party payors could impede our ability to market any future products we may develop and could limit our ability to generate revenue.

There is significant uncertainty related to the third-party payor coverage and reimbursement of newly approved medical products. In addition, there is uncertainty for continued levels of reimbursement for any medical products in consideration of competition, issues concerning the global healthcare infrastructure and other issues that may be beyond our control. The commercial success of our future products in both domestic and international markets depends on whether third-party coverage and reimbursement is available and ongoing for our future products. Governmental payors, including Medicare and Medicaid, health maintenance organizations and other third-party payors are increasingly attempting to manage their healthcare expenditures by limiting both coverage and the level of reimbursement of new drugs and biologics and, as a result, they may not cover or provide adequate

reimbursement for our future products or related diagnostics. These payors may not view our future products as cost-effective, and coverage and reimbursement may not be available to o ur customers or may not be sufficient to allow our future products to be marketed on a competitive basis.

Third-party payors are exerting increasing influence on decisions regarding the use of, and coverage and reimbursement levels for, particular treatments. Such third-party payors, including Medicare, are challenging the prices charged for medical products and services, and many third-party payors limit or delay coverage and reimbursement for newly approved healthcare products. In particular, third-party payors may limit the covered indications. Cost-control initiatives could cause us to decrease the price we might establish for products, which could result in lower than anticipated revenue from the sale of our product candidates. If we decrease the prices for our product candidates or are unable to occasionally increase prices because of competitive pressures or if governmental and other third-party payors do not provide adequate coverage or reimbursement, our prospects for revenue and profitability will suffer.

In addition, to the extent that our product candidates will be used in a hospital inpatient setting, hospitals often receive fixed reimbursement for all of a patient's care, including the cost of our drug products and IVD assay, based on the patient's diagnosis. For example, Medicare reimbursement for hospital inpatient stays is generally made under a prospective payment system that is determined by a classification system known as the Medicare severity diagnosis-related groups. Our patients' access to adequate coverage and reimbursement by government and private insurance plans is central to the acceptance of our future products. We may be unable to sell our products on a profitable basis if third-party payors reduce their current levels of payment, or if our costs of production increase faster than increases in reimbursement levels.

We are developing our lead product candidate plazomicin for the treatment of serious bacterial infections due to MDR Enterobacteriaceae, including CRE, which constitute a growing but relatively small patient population. Antibiotics have historically been marketed towards broad patient populations at relatively low prices. Based on the high unmet medical need in the treatment of these infections and the high costs of treating antibiotic resistant infections, we are targeting value-based pricing for plazomicin. If hospitals or governmental or other third-party payors do not view the benefits of plazomicin as worth the cost, we will be unable to achieve our pricing and reimbursement objectives and our prospects for revenue and profitability will suffer.

We rely on third parties to conduct some of our preclinical studies and all of our clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may be unable to obtain regulatory approval for or commercialize any of our product candidates.

We rely on medical institutions, clinical investigators, contract laboratories and other third parties, such as CROs, to conduct our preclinical studies and clinical trials on our product candidates in compliance with applicable regulatory requirements. These third parties are not our employees and, except for restrictions imposed by our contracts with such third parties, we have limited ability to control the amount or timing of resources that they devote to our programs. Although we rely on these third parties to conduct our preclinical studies and clinical trials, we remain responsible for ensuring that each of our preclinical studies and clinical trials is conducted in accordance with its investigational plan and protocol and the applicable legal, regulatory, and scientific standards, and our reliance on these third parties does not relieve us of our regulatory responsibilities. The FDA and regulatory authorities in other jurisdictions require us to comply with regulations and standards, commonly referred to as current good clinical practices ("cGCPs"), for conducting, monitoring, recording and reporting the results of clinical trials, in order to ensure that the data and results are scientifically credible and accurate and that the trial subjects are adequately informed of the potential risks of participating in clinical trials. If we or any of 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 or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. In addition, we are required to report certain financial interests of our third party investigators if these relationships exceed certain financial thresholds and meet other criteria. The FDA or comparable foreign regulatory authorities may question the integrity of the data from those clinical trials conducted by principal investigators who previously served or currently serve as scientific advisors or consultants to us from time to time and receive cash compensation in connection with such services. Our clinical trials must also generally be conducted with products produced under current good manufacturing practice ("cGMP") regulations. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process.

Many of the third parties with whom we contract may also have relationships with other commercial entities, some of which may compete with us. If the third parties conducting our preclinical studies or our clinical trials do not perform their contractual duties or obligations or comply with regulatory requirements we may need to enter into new arrangements with alternative third parties. This could be costly, and our preclinical studies or clinical trials may need to be extended, delayed, terminated or repeated, and we may not be able to obtain regulatory approval in a timely fashion, or at all, for the applicable product candidate, or to commercialize such product candidate being tested in such studies or trials. If any of our relationships with these third parties terminate, we may not be able to enter into arrangements with alternative third party contractors or to do so on commercially reasonable terms. Though we carefully manage our relationships with our CROs, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition and prospects.

We rely on third-party contract manufacturing organizations to manufacture and supply plazomicin, C-Scape, and other product candidates for us, as well as certain raw materials used in the production thereof. If one of our suppliers or manufacturers fails to perform adequately we may be required to incur significant delays and costs to find new suppliers or manufacturers.

We currently have limited experience in, and we do not own facilities for, manufacturing our product candidates, including plazomicin. We rely upon third-party manufacturing organizations to manufacture and supply our product candidates and certain raw materials used in the production thereof. Some of our key components for the production of plazomicin have a limited number of suppliers. In particular, sisomicin, the aminoglycoside precursor for plazomicin, is supplied by a single manufacturer in China for which we do not have a commercial supply agreement.

The facilities used by our contract manufacturers to manufacture our product candidates must be approved by the FDA pursuant to inspections that will be conducted after we submit our NDA to the FDA. We do not control the manufacturing process of, and are completely dependent on, our contract manufacturing partners for compliance with cGMP regulations for manufacture of our drug products. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or others, they will not be able to secure and/or maintain regulatory approval for their manufacturing facilities. If any of the manufacturers receive warning letters or other notices of violations from the FDA or others, they may be unable to timely address the issues raised in such warnings or notices. This could cause a delay or inability to supply materials or services on a timely basis. There could also be a delay if we are required to seek additional or backup sources for any aspects of the manufacturing process. In addition, we have no control over the ability of our contract manufacturers to maintain adequate quality control, quality assurance and qualified personnel. If the FDA or a comparable foreign regulatory authority does not approve these facilities for the manufacture of our product candidates or if it delays or withdraws any such approval in the future, we may need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for or market our product candidates, if approved.

Our third party suppliers may not be able to meet our supply needs or timelines and this may negatively affect our business. A majority of the manufacturing process is operated internationally, and therefore may be subject to similar risks of the sort described by the risk factor entitled " *A variety of risks associated with international operations could materially adversely affect our business.* "

The failure of third-party manufacturers or suppliers to perform adequately or the termination of our arrangements with any of them may adversely affect our business.

A variety of risks associated with international operations could materially adversely affect our business.

Certain existing suppliers we use are located outside of the United States, including our sole source supplier for sisomicin, a key raw material for the production of plazomicin, which is located in China, and for which we do not have a commercial supply agreement. Additionally, if plazomicin is approved for commercialization outside the United States, we will likely seek to enter into agreements with third parties to market plazomicin outside the United States. We are, or we expect that we will be, subject to additional risks related to these international business relationships, including:

- different regulatory requirements for drug approvals in foreign countries;
- differing U.S. and foreign drug import and export rules;
- reduced protection for intellectual property rights in certain foreign countries;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- different reimbursement systems;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incident to doing business in another country;
- potential liability resulting from development work conducted by these third parties; and
- business interruptions resulting from geopolitical events, including war and terrorism, or natural disasters.

We may be subject to costly pro duct liability claims related to our clinical trials and product candidates and, if we are unable to obtain adequate insurance or are required to pay for liabilities resulting from a claim excluded from, or beyond the limits of our insurance coverage, a ma terial liability claim could adversely affect our financial condition.

Because we conduct clinical trials with human patients, we face the risk that the use of our product candidates may result in adverse side effects to patients in our clinical trials. We face even greater risks upon any commercialization of our product candidates. Although we have product liability insurance, which covers our clinical trials for up to $5 million, our insurance may be insufficient to reimburse us for any expenses or losses we may suffer, and we will be required to increase our product liability insurance coverage for our advanced clinical trials that we plan to initiate. We do not know whether we will be able to continue to obtain product liability coverage and obtain expanded coverage if we require it, on acceptable terms, if at all. We may not have sufficient resources to pay for any liabilities resulting from a claim excluded from, or beyond the limits of, our insurance coverage. Where we have provided indemnities in favor of third parties under our agreements with them, there is also a risk that these third parties could incur liability and bring a claim under such indemnities. An individual may bring a product liability claim against us alleging that one of our product candidates or products causes, or is claimed to have caused, an injury or is found to be unsuitable for consumer use. Any product liability claim brought against us, with or without merit, could result in:

- withdrawal of clinical trial volunteers, investigators, patients or trial sites;
- the inability to commercialize our product candidates;
- decreased demand for our product candidates;
- regulatory investigations that could require costly recalls or product modifications;
- loss of revenue;
- substantial costs of litigation;
- liabilities that substantially exceed our product liability insurance, which we would then be required to pay ourselves;
- an increase in our product liability insurance rates or the inability to maintain insurance coverage in the future on acceptable terms, if at all;
- the diversion of management’s attention from our business; and
- damage to our reputation and the reputation of our products.

Product liability claims may subject us to the foregoing and other risks, which could have a material adverse effect on our business, results of operations, financial condition and prospects.

If we fail to establish an effective distribution process, which includes utilizing cold-chain logistics for plazomicin and the associated IVD assay, our business may be adversely affected.

We do not currently have the infrastructure necessary for distributing pharmaceutical products to patients. We intend to contract with a third-party logistics company to warehouse these products and distribute them, and we will require plazomicin and the associated IVD assay to be maintained at a controlled temperature for some of the distribution chain. Failure to secure contracts with a logistics company could negatively impact the distribution of plazomicin or the IVD assay. If we are unable to effectively establish and manage the distribution process, the commercial launch and sales of plazomicin and the associated IVD assay will be delayed or severely compromised and our results of operations may be harmed.

In addition, the use of third party distributors, including with respect to cold-chain logistics for plazomicin and the associated IVD assay, involves certain risks, including, but not limited to, risks that distributors or pharmacies will:

- not provide us with accurate or timely information regarding their inventories, the number of patients who are using plazomicin or the IVD assay, or complaints regarding them;
- not effectively sell or support plazomicin or the associated IVD assay with sufficient cold storage;
- reduce their efforts or discontinue to sell or support plazomicin or the IVD assay;
- not devote the resources necessary to sell plazomicin or the IVD assay in the volumes and within the time frames that we expect;

- be unable to satisfy financial obligations to us or others; or

- cease operations.

Plazomicin is still undergoing evaluation for, and we expect our IVD assay will have, a room temperature shelf life. Currently cold-chain logistics is required and if we do not effectively maintain our cold-chain supply logistics, then we may experience an unusual number of product returns or out of date product. Any such failure may result in decreased product sales and lower product revenue, which would harm our business.

We currently have limited sales and marketing and distribution staff. If we are unable to develop an adequate sales and marketing and distribution capability on our own or through third parties, we will not be successful in commercializing our future products.

We currently have limited sales, marketing and distribution staff and no history in this capacity. To achieve commercial success for any approved product candidate, we must either develop an adequate sales, marketing and distribution organization or outsource these functions to third parties. If we rely on third parties for selling, marketing and distributing our approved products, any revenue we receive will depend upon the efforts of third parties, which may not be successful and are only partially within our control, and our product revenue may be lower than if we directly sold or marketed our products. If we are unable to enter into arrangements with third parties to sell, market and distribute product candidates for which we have received regulatory approval on acceptable terms or at all, we will need to market these products ourselves. This is likely to be expensive and logistically difficult, as it would require us to build our own sales, marketing and distribution capacity. We have no historical operations in this area, and if such efforts were necessary, we may not be able to successfully commercialize our future products. If we are not successful in commercializing our future products, either on our own or through third parties, any future product revenue will be materially and adversely affected, which would harm our business.

We face substantial competition and our competitors may discover, develop or commercialize products faster or more successfully than us.

The development and commercialization of new drug products is highly competitive. We face competition from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide with respect to plazomicin and other product candidates that we may seek to develop or commercialize in the future. There are a number of pharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of product candidates for the treatment of MDR infections. Potential competitors also include academic institutions, government agencies and other public and private research organizations. Our competitors may succeed in developing, acquiring or licensing technologies and drug products that are more effective, safer or less costly than plazomicin or any other product candidates that we are currently developing or that we may develop, which could render our product candidates obsolete and noncompetitive.

There are a variety of available therapies marketed for the treatment of MDR infections that we would expect would compete with plazomicin, including Avycaz ™ (ceftazadime/avibactam), which is marketed by Allergan plc in the United States and marketed by Pfizer outside the United States, tigecycline, which is marketed by Pfizer as Tygacil®, other aminoglycosides that are generically available (such as gentamicin, amikacin, tobramycin), and polymixins that are generically available (colistin and polymixin B). Many of the available therapies are well-established and widely accepted by physicians, patients and third-party payors. Insurers and other third-party payors may also encourage the use of generic products. If plazomicin is approved, it may be priced at a premium over other competitive products. This may limit plazomicin's adoption for MDR gram-negative infections.

There are also a number of products in late-stage clinical development by third parties to treat MDR gram-negative infections. Tetraphase Pharmaceuticals, Inc. is developing eravacycline for complicated urinary and intra-abdominal infections. The Medicines Company is developing Vabomere ™ for cUTI and various infection types due to CRE. Merck & Co., Inc. is developing imipenem/relebactam for certain life-threatening infections caused by MDR strains, including infections due to metallo-β-lactamase producing gram-negative pathogens. Zavante Therapeutics, Inc. is developing ZTI-01 for cUTI. Shionogi is developing cefiderocol for carbapenem-resistant gram-negative pathogens. We may also eventually face competition from products in earlier development stage. If our competitors obtain marketing approval from the FDA or comparable foreign regulatory authorities for their product candidates more rapidly than us, it could result in our competitors establishing a strong market position before we are able to enter the market.

In July 2012, the Food and Drug Administration Safety and Innovation Act was passed, which included the Generating Antibiotics Incentives Now ("GAIN") Act. The GAIN Act provides incentives for the development of new, qualified infectious disease products, including adding five years to the otherwise applicable regulatory exclusivity period. We requested and the FDA granted qualified infectious disease product designation for plazomicin for the treatment of hospital acquired bacterial pneumonia, ventilator-associated pneumonia, complicated intra-abdominal infections, cUTIs, and catheter-related bloodstream infections on December 14, 2014. The incentives provided under the GAIN Act, along with government contract funding and other incentives for antibiotic research, may result in more competition in the market for new antibiotics.

In addition to the GAIN Act, the 21st Century Cures Act was signed into law in December 2016. This act establishes a new approval process (Limited Population Antibacterial Drug or "LPAD") for antimicrobials intended for the treatment of serious infections in limited patient populations with an unmet medical need. It also provides a mechanism to establish, update, and communicate susceptibility test interpretive criteria for anti microbial drugs. Although the 21st Century Cures Act and other contemplated acts in this space can help or support Achaogen, they also increase competition in the market for antimicrobials and provide incentives for the potential of new competitors in this disease area.

Many of our competitors have materially greater name recognition and financial, manufacturing, marketing, research and drug development resources than we do. Additional mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated in our competitors. Large pharmaceutical companies in particular have extensive expertise in preclinical and clinical testing and in obtaining regulatory approvals for drugs. In addition, academic institutions, government agencies, and other public and private organizations conducting research may seek patent protection with respect to potentially competitive products or technologies. These organizations may also establish exclusive collaborative or licensing relationships with our competitors.

Finally, the success of any product that is successfully commercialized will depend in large part on our ability to prevent competitors from launching a generic version that would compete with such product. If such competitors are able to establish that our patents are invalid or not infringed by the generic version of our product, they may be able to launch a generic product prior to the expected expiration of our relevant patents, and any generic competition could have a material adverse effect on our business, results of operations, financial condition and prospects.

We may attempt to form collaborations in the future with respect to our technology and product candidates, but we may not be able to do so, which may cause us to alter our development and commercialization plans.

We may form strategic alliances, create joint ventures or collaborations or enter into licensing arrangements with third parties with respect to our programs that we believe will complement or augment our existing business. For example, we currently intend to identify one or more strategic partners for the commercialization of plazomicin, and we may also attempt to find one or more strategic partners for the development or commercialization of one or more of our other product candidates. We face significant competition in seeking appropriate strategic partners, and the negotiation process to secure appropriate terms is time-consuming and complex. We may not be successful in our efforts to establish strategic partnerships for our product candidates and programs on terms that are acceptable to us, or at all.

Any delays in identifying suitable collaborators and entering into agreements to develop or commercialize our product candidates could negatively impact the development or commercialization of our product candidates in geographic regions where we do not have development and commercialization infrastructure. Absent a collaboration partner, we would need to undertake development or commercialization activities at our own expense. If we elect to fund and undertake development or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we are unable to do so, we may not be able to develop our product candidates or bring them to market and our business may be materially and adversely affected.

We may be unable to realize the potential benefits of any collaboration.

Even if we are successful in entering into a collaboration with respect to the development or commercialization of one or more product candidates, there is no guarantee that the collaboration will be successful. Collaborations may pose a number of risks, including:

- collaborators often have significant discretion in determining the efforts and resources that they will apply to the collaboration, and may not commit sufficient resources to the development, marketing or commercialization of the product or products that are subject to the collaboration;
- collaborators may not perform their obligations as expected;
- collaborators may cease to devote resources to the development or commercialization of our product candidates if the collaborators view our product candidates as competitive with their own products or product candidates;
- disagreements with collaborators, including disagreements over proprietary rights, contract interpretation or the course of development, might cause delays or termination of the development or commercialization of product candidates, and might result in legal proceedings, which would be time-consuming, distracting and expensive;
- collaborators may be impacted by changes in their strategic focus or available funding, or business combinations involving them, which could cause them to divert resources away from the collaboration;

- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- the collaborations may not result in us achieving revenue to justify such transactions; and
- collaborations may be terminated and, if terminated, may result in a need for us to raise additional capital to pursue further development or commercialization of the applicable product candidate.

As a result, a collaboration may not result in the successful development or commercialization of our product candidates.

Our operating activities may be restricted as a result of covenants related to the indebtedness under our loan agreement and we may be required to repay the outstanding indebtedness in an event of default, which could have a materially adverse effect on our business.

On August 5, 2015, we entered into a loan and security agreement with Solar Capital Ltd., pursuant to which Solar Capital Ltd. agreed to make available to us term loans with an aggregate principal amount of up to $25 million, $15 million of which was provided to us on August 5, 2015 and $10 million of which was provided to us on June 20, 2016. Until we have repaid such indebtedness, the loan and security agreement subjects us to various customary covenants, including requirements as to financial reporting and insurance, and restrictions on our ability to dispose of our business or property, to change our line of business, to liquidate or dissolve, to enter into any change in control transaction, to merge or consolidate with any other entity or to acquire all or substantially all the capital stock or property of another entity, to incur additional indebtedness, to incur liens on our property, to pay any dividends or other distributions on capital stock other than dividends payable solely in capital stock, to redeem capital stock, to enter into licensing agreements, to engage in transactions with affiliates, or to encumber our intellectual property. Our business may be adversely affected by these restrictions on our ability to operate our business.

Additionally, we may be required to repay the outstanding indebtedness under the loan facility if an event of default occurs under the loan and security agreement. Under the loan and security agreement, an event of default will occur if, among other things, we fail to make payments under the loan and security agreement; we breach any of our covenants under the loan and security agreement, subject to specified cure periods with respect to certain breaches; the Lender determines that a material adverse change has occurred; we or our assets become subject to certain legal proceedings, such as bankruptcy proceedings; we are unable to pay our debts as they become due; or we default on contracts with third parties which would permit the holder of indebtedness to accelerate the maturity of such indebtedness or that could have a material adverse change on us. We may not have enough available cash or be able to raise additional funds through equity or debt financings to repay such indebtedness at the time any such event of default occurs. In this case, we may be required to delay, limit, reduce or terminate our product development or commercialization efforts or grant to others rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves. Solar Capital Ltd. could also exercise its rights as collateral agent to take possession of and to dispose of the collateral securing the term loans, which collateral includes substantially all of our property (excluding intellectual property, which is subject to a negative pledge). Our business, financial condition and results of operations could be materially adversely affected as a result of any of these events.

We may need to grow our organization, and we may experience difficulties in managing growth.

As of September 30, 2017, we had 194 employees. We will need to expand our managerial, operational, financial and other resources in order to manage our operations and clinical trials, continue our development activities and commercialize plazomicin or other product candidates. Our management and personnel, systems and facilities currently in place may not be adequate to support this future growth. Our need to effectively execute our business strategy requires that we:

- manage all our planned clinical trials;
- manage our internal discovery and development efforts effectively while carrying out our contractual obligations to licensors, contractors, government agencies, any future collaborators and other third parties;
- conduct pre-commercial activities for plazomicin;
- continue to improve our operational, financial and management controls, reporting systems and procedures; and
- identify, recruit, maintain, motivate and integrate additional employees.

If we are unable to expand our managerial, operational, financial and other resources to the extent required to manage our development and commercialization activities, our business will be materially adversely affected.

We are highly dependent on the services of our executive team and our ability to attract and retain qualified personnel.

We may not be able to attract or retain qualified management and scientific and clinical personnel in the future due to the intense competition for qualified personnel among biotechnology, pharmaceutical and other businesses, particularly in the San Francisco Bay Area. We are highly dependent on the principal members of our management and scientific staff, particularly our executive team. If we are not able to retain our executive team or are not able to attract, on acceptable terms, additional qualified personnel necessary for the continued development of our business, we may not be able to sustain our operations or grow. Although we have executed employment agreements with each member of our current executive management team, we may not be able to retain their services as expected. In addition to the competition for personnel, the San Francisco Bay Area in particular is characterized by a high cost of living. Although we historically have not had any material difficulty attracting qualified experienced personnel to our company, we could in the future have such difficulties and may be required to expend significant financial resources in our employee recruitment and retention efforts.

In addition, we have scientific and clinical advisors who assist us in formulating our product development and clinical strategies. These advisors are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us, or may have arrangements with other companies to assist in the development of products that may compete with ours.

If we are not able to attract, retain and motivate necessary personnel to accomplish our business objectives, we may experience constraints that will significantly impede the achievement of our development objectives, our ability to raise additional capital and our ability to implement our business strategy.

Recent changes in our executive leadership and any similar changes in the future may serve as a significant distraction for our management and employees.

Since the beginning of 2016, there have been a number of changes to our executive leadership team. In February 2017, we hired our Chief Commercial Officer, Janet Dorling, in November 2016, we hired our General Counsel, Gary Loeb, and in July 2016, we hired our Chief Financial Officer, Tobin Schilke. In March 2017, our former Chief Medical Officer, Ian Friedland, resigned and transitioned to a consulting position. In September 2017, we hired our Chief Business Officer, Liz Bhatt. Such changes, or any other future changes in our executive leadership, may disrupt our operations as we adjust to the reallocation of responsibilities and assimilate new leadership and, potentially, differing perspectives on our strategic direction. If the transition in executive leadership is not smooth, the resulting disruption could negatively affect our operations and impede our ability to execute our strategic plan.

Our business involves the use of hazardous materials and we and our third-party manufacturers must comply with environmental laws and regulations, which may be expensive and restrict how we do business.

Our third-party manufacturers' activities and our own activities involve the controlled storage, use and disposal of hazardous materials, including the components of our pharmaceutical product candidates, test samples and reagents, biological materials and other hazardous compounds. We and our manufacturers are subject to federal, state, local and foreign laws and regulations governing the use, generation, manufacture, storage, handling and disposal of these hazardous materials. We currently carry no insurance specifically covering environmental claims relating to the use of hazardous materials. Although we believe that our safety procedures for handling and disposing of these materials and waste products comply with the standards prescribed by these laws and regulations, we cannot eliminate the risk of accidental injury or contamination from the use, storage, handling or disposal of hazardous materials. In the event of an accident, state or federal or other applicable authorities may curtail our use of these materials and/or interrupt our business operations. In addition, if an accident or environmental discharge occurs, or if we discover contamination caused by prior operations, including by prior owners and operators of properties we acquire, we could be liable for cleanup obligations, damages and fines. If such unexpected costs are substantial, this could significantly harm our financial condition and results of operations.

Risks associated with a company-wide implementation of an enterprise resource planning, or ERP, system may adversely affect our business and results of operations or the effectiveness of our control environment.

We are implementing a company-wide ERP system to handle the business and financial processes within our operations and corporate functions. ERP implementations are complex and time-consuming projects that involve substantial expenditures on system software and implementation activities. ERP implementations also require transformation of business and financial processes in order to reap the benefits of the ERP system. Our business and results of operations may be adversely affected if we experience operating problems or cost overruns during the ERP implementation process, or if the ERP system and the associated process changes do not give rise to the benefits that we expect. If we do not effectively implement the ERP system as planned or if the system does not operate as intended, it may adversely affect our ability to manage and run our business operations, file reports with the SEC in a timely manner, and/or otherwise affect our controls environment. Any of these consequences could have an adverse effect on our results of operations and financial condition.

Our internal computer systems, or those of our CROs o r other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our business operations.

Despite the implementation of security measures, our internal computer systems and those of our CROs and other contractors and consultants are vulnerable to damage or disruption from computer viruses, software bugs, unauthorized access, natural disasters, terrorism, war, and telecommunication, equipment and electrical failures. While we have not, to our knowledge, experienced any significant system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our programs. For example, the loss of clinical trial data from completed or ongoing clinical trials for any of our product candidates could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach results in a loss of or damage to our data or applications, or inappropriate disclosure or theft of confidential or proprietary information, we could incur liability, or adversely affect our business operations and/or financial condition.

Our employees, independent contractors, principal investigators, CROs, consultants and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk that our employees, independent contractors, principal investigators, CROs, consultants and vendors may engage in fraudulent or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or disclosure of unauthorized activities to us that violates: (1) FDA regulations, including those laws requiring the reporting of true, complete and accurate information to the FDA; (2) manufacturing standards; (3) federal and state healthcare fraud and abuse laws and regulations; or (4) laws that require the true, complete and accurate reporting of financial information or data. Specifically, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Activities subject to these laws also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter misconduct by our employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of civil, criminal and administrative penalties, damages, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

We incur significant costs as a result of operating as a public company, and our management devotes substantial time to new compliance initiatives.

Prior to our initial public offering ("IPO") in March 2014, we had not been subject to the reporting requirements of the Exchange Act of 1934, as amended (the "Exchange Act"), or the other rules and regulations of the Securities and Exchange Commission (the "SEC") or any securities exchange relating to public companies. We continue to identify those areas in which changes should be made to our financial and management control systems to manage our growth and our obligations as a public company. These areas include corporate governance, corporate control, disclosure controls and procedures and financial reporting and accounting systems. We have made, and will continue to make, changes in these and other areas. However, the expenses associated with being a public company could be material, particularly after we cease to be an "emerging growth company." Based on our non-affiliated market capitalization as of June 30, 2017, we will cease to be an emerging growth company on January 1, 2018. Compliance with the various reporting and other requirements applicable to public companies requires considerable time and attention of management. In addition, the changes we make may not be sufficient to allow us to satisfy our obligations as a public company on a timely basis.

In addition, certain types of insurance, including directors' and officers' liability insurance are more expensive as a public company. Being a public company could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

If we are not able to implement the requirements of Section 404 of the Sarbanes-Oxley Act of 2002 in a timely manner or with adequate compliance, we may be subject to sanctions by regulatory authorities.

Section 404 of the Sarbanes-Oxley Act of 2002 requires that we evaluate and determine the effectiveness of our internal controls over financial reporting and provide a management report on the internal control over financial reporting. If we have a material weakness in our internal controls over financial reporting, as occurred for the quarter ended June 30, 2017, we may not detect errors on a timely basis and our financial statements may be materially misstated. We will be evaluating our internal controls systems to allow management to report on, and eventually our independent auditors will attest to, the effectiveness of the operation of our internal

controls. We will be performing the system an d process evaluation and testing (and any necessary remediation) required to comply with the management certification and eventual auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002. The aforementioned auditor attestation req uirements will not apply to us until we are no longer considered an "emerging growth company." Based on our non-affiliated market capitalization as of June 30, 2017, we will cease to be an emerging growth company on January 1, 2018.

We cannot be certain as to the timing of completion of our evaluation, testing and remediation action or the impact of the same on our operations. If we are not able to comply with the requirements of Section 404 in a timely manner, or if we or our independent registered public accounting firm identifies deficiencies in our internal controls that are deemed to be material weaknesses, as occurred for the quarter ended June 30, 2017, we could be subject to sanctions or investigations by The NASDAQ Stock Market LLC, the SEC or other regulatory authorities, which would entail expenditure of additional financial and management resources and could materially adversely affect our stock price. Deficient internal controls could also cause us to fail to meet our reporting obligations or cause investors to lose confidence in our reported financial information, which could have a negative effect on our stock price.

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

We have designed our disclosure controls and procedures to reasonably assure that information we must disclose in reports we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well-conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple errors or mistakes. Additionally, controls can be circumvented by the acts of some individuals, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

For example, in connection with the preparation of our interim financial statements for the quarter ended June 30, 2017, we identified a material weakness in our internal control over financial reporting related to a design deficiency in our internal controls over the preparation and review of our earnings per share calculation. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim consolidated financial statements will not be prevented or detected and corrected on a timely basis. Specifically, our controls were not adequately designed to ensure that all potentially dilutive securities were accurately reflected in the calculation of our diluted earnings per share.

We have prepared a remediation plan to address the underlying causes of the material weakness described above. The remediation plan is in progress and includes;

- Reassessing the design and operation of internal controls over financial reporting, including setting up a model with sufficient detail to ensure that all potentially dilutive securities were accurately reflected in the calculation of our diluted earnings per share;
- Training of accounting personnel to further educate the staff on the accounting of new and ongoing complex and/or technical transactions relevant to us; and
- Increasing staffing levels and expertise to implement this remediation plan.

We cannot assure you that the measures we may take in response to this material weakness will be sufficient to remediate such material weakness or to avoid potential future material weaknesses.

Additionally, we cannot provide assurance that a similar material weakness will not recur, or that we will be able to conclude on an ongoing basis that we have effective internal control over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act of 2002 and the related rules and regulations of the SEC when required. If we cannot in the future favorably assess, or our independent registered public accounting firm, when required, is unable to provide an unqualified attestation report on, the effectiveness of our internal control over financial reporting, investor confidence in the reliability of our financial reports may be adversely affected, which could have a material adverse effect on our stock price. In addition, any failure to report our financial results on an accurate and timely basis could result in sanctions, lawsuits, delisting of our shares from The NASDAQ Global Market or other adverse consequences that would materially harm our business.

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

Our corporate headquarters is located in the San Francisco Bay Area, which in the past has experienced severe earthquakes. We do not carry earthquake insurance. Earthquakes or other natural disasters could severely disrupt our operations, and have a material adverse effect on our business, results of operations, financial condition and prospects.

If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as our information technology systems, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place currently are limited and are unlikely to prove adequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which, particularly when taken together with our lack of earthquake insurance, could have a material adverse effect on our business.

Furthermore, integral parties in our supply chain are geographically concentrated and operating from single sites, increasing their vulnerability to natural disasters or other sudden, unforeseen and severe adverse events. If such an event were to affect our supply chain, it could have a material adverse effect on our business.

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

Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an "ownership change" (generally defined as a greater than 50 percentage points change (by value) in the ownership of its equity by certain significant stockholders over a rolling three year period), the corporation's ability to use its pre-change net operating loss carryforwards and certain other pre-change tax attributes to offset its post-change income and taxes may be limited. We may have experienced such ownership changes in the past, and we may experience ownership changes in the future and/or subsequent shifts in our stock ownership, some of which would be outside our control. If our ability to use our net operating losses and other tax attributes is limited by ownership changes, we may be unable to utilize a material portion of our net operating losses and other tax attributes.

Risks Related to Our U.S. Government Contracts and to Certain Grant Agreements

Our use of government funding for certain of our programs adds uncertainty to our research and commercialization efforts with respect to those programs and may impose requirements that increase the costs of commercialization and production of product candidates developed under those government-funded programs.

Our development of products has been funded in significant part through a contract with BARDA. We are also receiving funding from the National Institute of Allergy and Infectious Diseases ("NIAID") for one of our pre-clinical programs and we in the past received funding for other programs from the Defense Threat Reduction Agency ("DTRA") and from NIAID. Contracts funded by the U.S. government and its agencies include provisions that reflect the government's substantial rights and remedies, many of which are not typically found in commercial contracts, including powers of the government to:

- terminate agreements, in whole or in part, for any reason or no reason;
- reduce or modify the government's obligations under such agreements without the consent of the other party;
- claim rights, including intellectual property rights, in products and data developed under such agreements;
- audit contract-related costs and fees, including allocated indirect costs;
- suspend the contractor from receiving new contracts pending resolution of alleged violations of procurement laws or regulations;
- impose U.S. manufacturing requirements for products that embody inventions conceived or first reduced to practice under such agreements;
- suspend or debar the contractor from doing future business with the government;
- control and potentially prohibit the export of products; and
- pursue criminal or civil remedies under the False Claims Act ("FCA"), the False Statements Act and similar remedy provisions specific to government agreements.

We may not have the right to prohibit the U.S. government from using or allowing others to use certain technologies dev eloped by us, and we may not be able to prohibit third-party companies, including our competitors, from using those technologies in providing products and services to the U.S. government. The U.S. government generally obtains the right to royalty-free use of technologies that are developed under U.S. government contracts.

In addition, government contracts normally contain additional requirements that may increase our costs of doing business, reduce our profits, and expose us to liability for failure to comply with these terms and conditions. These requirements include, for example:

- specialized accounting systems unique to government contracts;
- mandatory financial audits and potential liability for price adjustments or recoupment of government funds after such funds have been spent;
- public disclosures of certain contract information, which may enable competitors to gain insights into our research program; and
- mandatory socioeconomic compliance requirements, including labor standards, anti-human-trafficking, non-discrimination, and affirmative action programs and environmental compliance requirements.

If we fail to maintain compliance with these requirements, we may be subject to potential contract or FCA liability and to termination of our contracts.

U.S. government agencies have special contracting requirements that give them the ability to unilaterally control our contracts.

U.S. government contracts typically contain unfavorable termination provisions and are subject to audit and modification by the government at its sole discretion, which will subject us to additional risks. These risks include the ability of the U.S. government to unilaterally:

- audit and object to our BARDA contract-related costs and fees, and require us to reimburse all such costs and fees;
- suspend or prevent us for a set period of time from receiving new contracts or extending our existing contracts based on violations or suspected violations of laws or regulations;
- cancel, terminate or suspend our contracts based on violations or suspected violations of laws or regulations;
- terminate our contracts if in the government's interest, including if funds become unavailable to the applicable governmental agency;
- reduce the scope and value of our contract; and
- change certain terms and conditions in our contract.

The U.S. government will be able to terminate any of its contracts with us, either for convenience or if we default by failing to perform in accordance with or to achieve the milestones set forth in the contract schedules and terms. Termination-for-convenience provisions generally enable us to recover only our costs incurred or committed and settlement expenses on the work completed prior to termination. Except for the amount of services received by the government, termination-for-default provisions do not permit these recoveries and would make us liable for excess costs incurred by the U.S. government in procuring undelivered items from another source.

The U.S. government's determination to award a future contract or contract option may be challenged by an interested party, such as another bidder, at the U.S. Government Accountability Office (the "GAO"), or in federal court. If such a challenge is successful, our BARDA contract or any future contract we may be awarded may be terminated.

The laws and regulations governing the procurement of goods and services by the U.S. government provide procedures by which other bidders and interested parties may challenge the award of a government contract. If we are awarded a government contract, such challenges or protests could be filed even if there are not any valid legal grounds on which to base the protest. If any such protests are filed, the government agency may decide to suspend our performance under the contract while such protests are being considered by the GAO or the applicable federal court, thus potentially delaying delivery of payment. In addition, we could be forced to expend considerable funds to defend any potential award. If a protest is successful, the government may be ordered to terminate any one or more of our contracts and reselect bids. The government agencies with which we have contracts could even be directed to award a potential contract to one of the other bidders.

Our business is subject to audit b y the U.S. government and other potential sources for grant funding, including under our contracts with BARDA, NIAID and the Gates Foundation, and a negative outcome in an audit could adversely affect our business.

U.S. government agencies such as the Department of Health and Human Services ("DHHS") and the Defense Contract Audit Agency (the "DCAA") routinely audit and investigate government contractors. These agencies review a contractor's performance under its contracts, cost structure and compliance with applicable laws, regulations and standards.

The DHHS and the DCAA also review the adequacy of, and a contractor's compliance with, its internal control systems and policies, including the contractor's purchasing, property, estimating, compensation and management information systems. Any costs found to be improperly allocated to a specific contract will not be paid, while such costs already paid must be refunded. If an audit uncovers improper or illegal activities, we may be subject to civil and criminal penalties and administrative sanctions, including:

- termination of contracts;
- forfeiture of profits;
- suspension of payments;
- fines; and
- suspension or prohibition from conducting business with the U.S. government.

In addition, we could suffer serious reputational harm if allegations of impropriety were made against us, which could cause our stock price to decrease. We have also agreed to allow the Bill & Melinda Gates Foundation (the "Gates Foundation") to audit our compliance with using specified proceeds from the Gates Foundation only for certain mutually-agreed upon work.

Laws and regulations affecting government contracts make it more expensive and difficult for us to successfully conduct our business.

We must comply with numerous laws and regulations relating to the formation, administration and performance of government contracts, which can make it more difficult for us to retain our rights under our BARDA contract. These laws and regulations affect how we conduct business with government agencies. Among the most significant government contracting regulations that affect our business are:

- the Federal Acquisition Regulations ("FAR") and agency-specific regulations supplemental to the FAR, which comprehensively regulate the procurement, formation, administration and performance of government contracts;
- business ethics and public integrity obligations, which govern conflicts of interest and the hiring of former government employees, restrict the granting of gratuities and funding of lobbying activities and include other requirements such as the Anti-Kickback Statute and Foreign Corrupt Practices Act;
- export and import control laws and regulations; and
- laws, regulations and executive orders restricting the use and dissemination of information classified for national security purposes and the exportation of certain products and technical data.

Any changes in applicable laws and regulations could restrict our ability to maintain our existing BARDA contract and obtain new contracts, which could limit our ability to conduct our business and materially adversely affect our results of operations.

Risks Related to Intellectual Property

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

We rely upon a combination of patents, trade secret protection and confidentiality agreements to protect the intellectual property related to our technologies. If we do not adequately protect our intellectual property, competitors may be able to use our technologies and erode or negate any competitive advantage we may have, which could harm our business and ability to achieve profitability. In particular, 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 product candidates. However, we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. We may also fail to identify patentable aspects of our research and development before it is too late to obtain patent protection.

Further, the patentability of inventions, and the validity, enforceability and scope of patents in the biotechnology and pharmaceutical field involve complex legal and scientific questi ons and can be uncertain. As a result, patent applications that we own or license may fail to result in issued patents in the United States or in other foreign countries for many reasons. For example, there is no assurance that we were the first to invent or the first to file patent applications in respect of the inventions claimed in our patent applications. Since patent applications in the United States and most other countries are confidential for a period of time after filing, we cannot be certain that we were the first to file any patent application related to our product candidates. We may also be unaware of certain prior art relating to our patent applications and patents, which could prevent a patent from issuing from a pending patent application, or result in an issued patent being invalidated. Even if patents have issued, or do successfully issue, from patent applications, third parties may challenge the validity, enforceability or scope thereof, which may result in such patents being narrowed, inva lidated or held unenforceable. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from designing around our claims. If the breadth or strength of protection provided by the patents and patent applications we hold, license or pursue with respect to our product candidates is threatened, it could threaten our ability to commercialize our product candidates. Further, if we encounter delays in our clinical trials, the period of time during which we could market any of our product candidates under patent protection, if approved, would be reduced. Changes to the patent laws in the United States and other jurisdictions could also diminish the value of our patents and patent applications or narrow the scope of our patent protection.

Further, one of our proposed development candidates, C-Scape, involves an innovative treatment combination of two previously-identified and approved products. In addition to all of the risks and uncertainties with pharmaceutical candidates in general, these prior products have extensive patent and intellectual property portfolios that once protected them and may continue to protect certain aspects of these products. Such portfolios create additional risks and uncertainties for our own ability to obtain material patent or intellectual property protection on our combination development candidate, including the possibility that existing patents or applications relate to and cover combinations of these same products or product classes and the possibility that prior patent positions on these compounds will make it more difficult for us to obtain our own affirmative patents in this area. Antibacterial products are commonly used in combination with one another in research, development and treatment. We may not be aware of all the ways these prior products have been used in combination and of the various intellectual property that may relate to such combination or combinations or the prior uses of these compounds that may prevent us from obtaining our own intellectual property.

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.

In addition to the protection afforded by patents, we rely on confidential proprietary information, including trade secrets, and know-how to develop and maintain our competitive position. Any disclosure to or misappropriation by third parties of our confidential proprietary information could enable competitors to quickly duplicate or surpass our technological achievements, thus eroding our competitive position in our market. We seek to protect our confidential proprietary information, in part, by confidentiality agreements and invention assignment agreements with our employees, consultants, scientific advisors, contractors and collaborators. These agreements are designed to protect our proprietary information. However, we cannot be certain that such agreements have been entered into with all relevant parties, and we cannot be certain that our trade secrets and other confidential proprietary information will not be disclosed or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. For example, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. We also seek to preserve the integrity and confidentiality of our confidential proprietary information by maintaining physical security of our premises and physical and electronic security of our information technology systems, but it is possible that these security measures could be breached. If any of our confidential proprietary information were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent such competitor from using that technology or information to compete with us, which could harm our competitive position. Further, the laws of some foreign countries, including China, where we currently source raw materials for plazomicin, do not protect proprietary rights to the same extent or in the same manner as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. If we are unable to prevent material disclosure of the intellectual property related to our technologies to third parties, we will not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, results of operations and financial condition.

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.

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 technology or product candidates, including proceedings such as post-grant review and inter partes review before the U.S. Patent and Trademark Office (“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 are 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, and we may not be able to do this. Proving that a patent is invalid is difficult. For example, in the United States, proving invalidity requires a showing of clear and convinci ng 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 pursuin g these proceedings, which could have a material adverse effect on us. 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. We may also elect to enter into license agreements in order to settle patent infringement claims or to resolve disputes prior to litigation, and any such license agreements may require us to pay royalties and other fees that could be significant. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business.

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

Competitors may infringe or otherwise violate our patents, the patents of our licensors, or our other intellectual property rights. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. Any claims that we assert against perceived infringers could also provoke these parties to assert counterclaims against us alleging that we infringe their intellectual property rights. In addition, in an infringement proceeding, a court may decide that a patent of ours is not valid or is unenforceable, in whole or in part, or may refuse to stop the other party in such infringement proceeding from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated, held unenforceable or interpreted narrowly, and could put any of our patent applications at risk of not yielding an issued patent.

Interference or derivation proceedings provoked by third parties or brought by the USPTO or any foreign patent authority may be necessary to determine the priority of inventions or other matters of inventorship with respect to our patents or patent applications. We may also become involved in other proceedings, such as re-examination or opposition proceedings, before the USPTO or its foreign counterparts relating to our intellectual property or the intellectual property rights of others. An unfavorable outcome in any such proceedings could require us to cease using the related technology or to attempt to license rights to it from the prevailing party, or could cause us to lose valuable intellectual property rights. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms, if any license is offered at all. Litigation or other proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. We may also become involved in disputes with others regarding the ownership of intellectual property rights. For example, we jointly develop intellectual property with certain parties, and disagreements may therefore arise as to the ownership of the intellectual property developed pursuant to these relationships. If we are unable to resolve these disputes, we could lose valuable intellectual property rights.

We may not be able to prevent misappropriation of our trade secrets or confidential information, particularly in countries where the laws may not protect those rights as fully as in the United States. 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 this type of litigation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses, and could distract our technical and/or management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the market price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. Uncertainties resulting from the initiation and

continuation of intellectual property litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

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

Filing, prosecuting and defending patents on all of our product candidates throughout the world would be prohibitively expensive. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection but where enforcement is not as strong as in the United States. These products may compete with our products in jurisdictions where we do not have any issued patents and our patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so competing. Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions, including China, where we currently source raw materials for plazomicin. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business.

If we breach any of the agreements under which we license the use, development and commercialization rights to our product candidates from third parties, we could lose license rights that are important to our business.

While the primary patent family covering plazomicin is Achaogen-owned, our development and commercialization of plazomicin is subject to our license agreement with Ionis Pharmaceuticals, Inc. (formerly known as Isis Pharmaceuticals, Inc.). Under our existing license agreements, we are subject to various obligations, including diligence obligations with respect to development and commercialization activities, payment obligations for achievement of certain milestones and royalties on product sales, as well as other material obligations. If we fail to comply with any of these obligations or otherwise breach our license agreements, our licensing collaborators may have the right to terminate the applicable license in whole or in part. The loss of our license agreement with Ionis Pharmaceuticals, Inc. could materially adversely affect our ability to proceed with the development or potential commercialization of plazomicin as currently planned.

The risks described elsewhere pertaining to our patents and other intellectual property rights also apply to the intellectual property rights that we license, and any failure by us or our licensors to obtain, maintain and enforce these rights could have a material adverse effect on our business. In some cases, we do not have control over the prosecution, maintenance or enforcement of the patents that we license, and may not have sufficient ability to consult and input into the patent prosecution and maintenance process with respect to such patents, and our licensors may fail to take the steps that we believe are necessary or desirable in order to obtain, maintain and enforce the licensed patents.

Intellectual property rights do not necessarily address all potential threats to our competitive advantage.

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

- others may be able to make compounds that are similar to our product candidates but that are not covered by the claims of the patents that we own or license;
- we or our licensors or collaborators might not have been the first to make the inventions covered by an issued patent or pending patent application that we own or license;
- we or our licensors or collaborators might not have been the first to file patent applications covering an invention;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- pending patent applications that we own or license may not lead to issued patents;
- issued patents that we own or license may not provide us with any competitive advantages, or may be held invalid or unenforceable, as a result of legal challenges by our competitors;
- our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;

- we may not develop or in-license additional proprietary technologies that are patentable; and
- the patents of others may have an adverse effect on our business.

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

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

Periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or applications will be due to be paid to the USPTO and various governmental patent agencies outside of the United States in several stages over the lifetime of the patents and/or applications. The USPTO and various non-U.S. governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. In many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. However, there are situations in which 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. In such an event, our competitors might be able to use our technologies and this circumstance would have a material adverse effect on our business.

We do not have exclusive rights to intellectual property we developed under U.S. federally-funded research grants and contracts in connection with certain neglected diseases initiatives, including our collaboration with the Gates Foundation, and, in the case of those funded research activities, we could ultimately share or lose the rights we do have under certain circumstances. Provisions in our U.S. government contracts, including our contract with BARDA, may affect our intellectual property rights.

Certain of our activities have been funded, and may in the future be funded, by the U.S. government, including our contract with BARDA. When new technologies are developed with U.S. government funding, the government obtains certain rights in any resulting patents, including the right to a nonexclusive license authorizing the government to use the invention under these rights may permit the government to disclose our confidential information to third parties and to exercise "march-in" rights to use or allow third parties to use our patented technology. The government can exercise its march-in rights if it determines that action is necessary because we fail to achieve practical application of the U.S. government-funded technology, because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations, or to give preference to U.S. industry. In addition, U.S. government-funded inventions must be reported to the government, U.S. government funding must be disclosed in any resulting patent applications, and our rights in such inventions may be subject to certain requirements to manufacture products in the United States.

Under our Gates Foundation collaboration, our research with respect to certain antibody platform and treatment development in identified developing countries are subject to certain intellectual property rights held by the Gates Foundation. While we have rights to develop and commercialize these technologies, we are required to implement a global access program for such technologies and we may not be able to further develop or exploit in certain territories, primarily those considered as developing countries.

Recent patent reform legislation and potential new legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents.

On September 16, 2011, the Leahy-Smith America Invents Act (the "AIA") was signed into law. The AIA includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications will be prosecuted and may also affect patent litigation. The passage of the AIA in 2011 added a new procedure to U.S. patent law. This procedure, inter partes review ("IPR"), allows any member of the public to file a petition with the USPTO seeking the review of any issued U.S. patent. IPRs are conducted before Administrative Patent Judges in the USPTO using a lower standard of proof than used in Federal District Court. In addition, the challenged patents are not accorded the presumption of validity as they are in Federal District Court. There are now instances where generic drug companies and some investment funds are attempting to invalidate patents by filing IPR challenges in the USPTO. The USPTO has promulgated regulations and developed procedures to govern administration of the AIA, and many of the substantive changes to patent law associated with the AIA, and in particular, the first to file provisions, did not come into effect until March 16, 2013. Accordingly, it is not yet clear what, if any, impact the AIA will have on the operation of our business. However, the AIA and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition. Patent reform continues to be a topic that could arise in a number of legislative and regulatory proposals, in particular related to patents and their impacts on ability to compete in healthcare. We cannot predict the way such future legislation, regulations or administrative procedures could impact our patent rights.

We may be subject to claims that our employees or consultants have wrongfully used or disclosed alleged trade secrets of former or other employers.

Many of our employees and consultants, including our senior management, have been employed or retained by other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees and consultants 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 or consultants have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such employee's or consultant's former or other employer. We are not aware of any material threatened or pending claims related to these matters, but in the future 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. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

If we do not obtain patent term extension in the United States under the Hatch-Waxman Act and in foreign countries under similar legislation, thereby potentially extending the term of our marketing exclusivity for our product candidates, our business may be materially harmed.

Depending upon the timing, duration and specifics of FDA marketing approval of our product candidates, if any, one or more of our U.S. patents, if any, covering our approved product(s) or the use thereof may be eligible for up to five years of patent term restoration under the Hatch-Waxman Act. The Hatch-Waxman Act allows a maximum of one patent to be extended per FDA approved product. Patent term extension also may be available in certain foreign countries upon regulatory approval of our product candidates. Nevertheless, we may not be granted patent term extension either in the United States or in any foreign country because of, for example, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. Moreover, the term of extension, as well as the scope of patent protection during any such extension, afforded by the governmental authority could be less than we request.

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

Risks Related to Government Regulation

The regulatory approval process is expensive, time consuming and uncertain and may prevent us from obtaining, or cause delays in obtaining, approvals for the commercialization of some or all of our product candidates, which will materially impair our ability to generate revenue.

The design, development, research, testing, manufacturing, labeling, storage, recordkeeping, approval, selling, import, export, advertising, promotion, and distribution of drug products are subject to extensive and evolving regulation by federal, state and local governmental authorities in the United States, principally by the FDA, and foreign regulatory authorities, with regulations differing from country to country. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate. Neither we nor any future collaboration partner is permitted to market plazomicin or any other product candidate in the United States until we receive regulatory approval of an NDA from the FDA.

In October 2017, we submitted an NDA to the FDA for plazomicin, seeking approval to treat cUTI, including AP and bloodstream infections in patients who have limited or no alternative treatment options. Other than the NDA for plazomicin submitted in October 2017, we have not submitted an application or obtained marketing approval for plazomicin or any other product candidate anywhere in the world. An NDA must include extensive preclinical and clinical data and supporting information to establish to the FDA's satisfaction the product candidate's safety and efficacy for each desired indication. An NDA must also include significant information regarding the chemistry, manufacturing and controls for the product candidate. Obtaining regulatory approval of an NDA can be a lengthy, expensive and uncertain process. In addition, failure to comply with FDA and other applicable U.S. and foreign regulatory requirements may subject us to administrative or judicially imposed sanctions, including:

- warning letters;
- civil and criminal penalties;
- injunctions;
- withdrawal of approved products;
- product seizure or detention;

- product recalls;
- total or partial suspension of production; and
- refusal to approve pending NDAs or supplements to approved NDAs.

Prior to receiving approval to commercialize any of our product candidates in the United States or abroad, we and any applicable collaboration partners must demonstrate with substantial evidence from well-controlled clinical trials, and to the satisfaction of the FDA and other regulatory authorities abroad, that such product candidates are safe and effective for their intended uses. Preclinical testing and clinical trials are long, expensive and uncertain processes. We may spend several years completing our testing for any particular product candidate, and failure can occur at any stage. Negative or inconclusive results or adverse medical events during a clinical trial could also cause the FDA or us to terminate a clinical trial or require that we repeat it or conduct additional clinical trials. Additionally, data obtained from preclinical studies and clinical trials can be interpreted in different ways and the FDA or other regulatory authorities may interpret the results of our studies and trials less favorably than we do. Even if we believe the preclinical or clinical data for a product candidate is promising, such data may not be sufficient to support approval by the FDA and other regulatory authorities. Administering any product candidates to humans may produce undesirable side effects, which could interrupt, delay or halt clinical trials of such product candidates and result in the FDA or other regulatory authorities denying approval of such product candidates for any or all targeted indications. The FDA or other regulatory authorities may determine that plazomicin or any other product candidate that we develop is not effective, or is only moderately effective, or has undesirable or unintended side effects, toxicities, safety profile or other characteristics that preclude marketing approval or prevent or limit commercial use. In addition, any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable.

The regulatory approval process is expensive and may take several years to complete. The FDA and foreign regulatory entities have substantial discretion in the approval process. Despite the time and expense exerted, failure can occur at any stage, and we could encounter problems that cause us to abandon or repeat clinical trials, or perform additional preclinical studies and clinical trials. The number of preclinical studies and clinical trials that will be required for FDA approval varies depending on the product candidate, the disease or condition that the product candidate is designed to address, and the regulations applicable to any particular product candidate. The FDA can delay, limit or deny approval of a product candidate for many reasons, including, but not limited to, the following:

- product candidate may not be deemed safe or effective;
- FDA officials may not find the data from preclinical studies and clinical trials sufficient;
- the FDA may request additional analyses, reports, data and studies;
- the FDA may ask questions regarding, or adopt different interpretations of, data and results;
- the FDA might not approve our or our third-party manufacturer’s processes or facilities; or
- the FDA may change its approval policies or adopt new regulations.

Although we have received FDA fast-track designation for our development of plazomicin to treat serious CRE infections, we cannot guarantee that we will experience a faster review or approval process compared to conventional FDA procedures. The FDA may withdraw fast-track designation if it believes that the designation is no longer supported by data from our clinical development program.

If any of our product candidates fails to demonstrate safety and efficacy in clinical trials or does not gain regulatory approval, or if we experience delays in obtaining regulatory approval, our business and results of operations will be materially and adversely harmed.

Even if we receive regulatory approval for a product candidate, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and subject us to restrictions, withdrawal from the market, or penalties if we fail to comply with applicable regulatory requirements or if we experience unanticipated problems with our product candidates, when and if approved.

Once regulatory approval has been granted, the approved product and its manufacturer are subject to continual review by the FDA and/or non-U.S. regulatory authorities. Any regulatory approval that we receive for our product candidates may be subject to limitations on the indicated uses for which the product may be marketed or contain requirements for potentially costly post-marketing follow-up studies or surveillance to monitor the safety and efficacy of the product. In addition, if the FDA and/or non-U.S. regulatory authorities approve any of our product candidates, we will be subject to extensive and ongoing regulatory requirements by the FDA

and other regulatory authorities with regard to labeling, packaging, adverse event reporting, storage, distribution, advertising, promotion, recordkeeping and submission of safety and other post-market information. Manufacturers of our products and ma nufacturers' facilities are required to comply with cGMP regulations, which include requirements related to quality control and quality assurance as well as the corresponding maintenance of records and documentation. Further, regulatory authorities must ap prove these manufacturing facilities before they can be used to manufacture our products, and these facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMP regulations. Accord ingly, we and others with whom we work must continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production and quality control. We will also be required to report certain adverse reactions and productio n problems, if any, to the FDA and to comply with requirements concerning advertising and promotion for our products. If we, any future collaboration partner or a regulatory authority discovers previously unknown problems with a product, such as adverse ev ents of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory authority may impose restrictions on that product, the collaboration partner, the manufacturer or us, including requiring withdrawal of the product from the market or suspension of manufacturing.

The FDA closely regulates the post-approval marketing and promotion of drugs to ensure drugs are marketed only for the approved indications and in accordance with the provisions of the approved labeling and regulatory requirements. The FDA also imposes stringent restrictions on manufacturers' communications regarding off-label use and if we do not restrict the marketing of our products only to their approved indications, we may be subject to enforcement action for off-label marketing. If we, our product candidates or the manufacturing facilities for our product candidates fail to comply with regulatory requirements of the FDA and/or other non-U.S. regulatory authorities, we could be subject to administrative or judicially imposed sanctions, including:

- warning letters or untitled letters;
- mandated modifications to promotional materials or the required provision of corrective information to healthcare practitioners;
- restrictions imposed on the product or its manufacturers or manufacturing processes;
- restrictions imposed on the labeling or marketing of the product;
- restrictions imposed on product distribution or use;
- requirements for post-marketing clinical trials;
- suspension of any ongoing clinical trials;
- suspension of or withdrawal of regulatory approval;
- voluntary or mandatory product recalls and publicity requirements;
- refusal to approve pending applications for marketing approval of new products or supplements to approved applications filed by us;
- restrictions on operations, including costly new manufacturing requirements;
- seizure or detention of our products;
- refusal to permit the import or export of our products;
- required entry into a consent decree, which can include imposition of various fines (including restitution or disgorgement of profits or revenue), reimbursements for inspection costs, required due dates for specific actions and penalties for noncompliance;
- civil or criminal penalties; or
- injunctions.

Widely publicized events concerning the safety risk of certain drug products have resulted in the withdrawal of drug products, revisions to drug labeling that further limit use of the drug products and the imposition by the FDA of risk evaluation and mitigation strategies ("REMS") to ensure that the benefits of the drug outweigh its risks. In addition, because of the serious public health risks of high profile adverse safety events with certain products, the FDA may require, as a condition of approval, costly REMS programs.

The regulatory requirements and policies may change and additional government regulations may be enacted for which we may also be required to comply. For example, in December 2016, the 21st Century Cures Act, or Cures Act, was signed into law. The Cures Act, among othe r 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 or any future collaboration partner are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained, which would adversely affect our business, prospects and ability to achieve or sustain profitability.

We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or in other countries. For example, certain policies of the current administration may impact our business and industry. The current 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, 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. Notably, on January 23, 2017, a hiring freeze was ordered for all executive departments and agencies, including the FDA, which prohibits the FDA from filling employee vacancies or creating new positions. Under the terms of the order, the freeze will remain in effect until implementation of a plan to be recommended by the Director for the Office of Management and Budget, or OMB, in consultation with the Director of the Office of Personnel Management, to reduce the size of the federal workforce through attrition. An under-staffed FDA could result in delays in 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. Moreover, on January 30, 2017, an Executive Order was issued, applicable to all executive agencies, including the FDA, that 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 on February 2, 2017, the administration indicates that the "two-for-one" provisions may apply not only to agency regulations, but also to significant agency guidance documents. It is difficult to predict how these 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 FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

Failure to obtain regulatory approvals in foreign jurisdictions will prevent us from marketing our product candidates internationally.

We may seek a distribution and marketing collaborator for plazomicin or other product candidates commercialized outside of the United States. In order to market our product candidates in the European Economic Area (the "EEA"), which is comprised of the 28 Member States of the EU, plus Norway, Iceland and Lichtenstein), and many other foreign jurisdictions, we or our collaboration partners must obtain separate regulatory approvals. More concretely, in the EEA, medicinal products can only be commercialized after obtaining a Marketing Authorization ("MA"). There are two types of marketing authorizations:

- the Community MA, which is issued by the European Commission through the Centralized Procedure, based on the opinion of the Committee for Medicinal Products for Human Use of the EMA, and which is valid throughout the entire territory of the EEA. The Centralized Procedure is mandatory for certain types of products, such as for drugs produced through certain specified biotechnological processes (such as recombinant DNA technology, controlled expression of genes coding for biologically active proteins in prokaryotes and eukaryotes including transformed mammalian cells, and hybridoma and monoclonal antibody methods), advanced therapy medicinal products, orphan medicinal products, and medicinal products indicated for the treatment of AIDS, cancer, neurodegenerative disorders, diabetes, auto-immune and viral diseases. The Centralized Procedure is optional for products containing a new active substance not yet authorized in the EEA, or for products that constitute a significant therapeutic, scientific or technical innovation or which are in the interest of public health in the EU.

- national MAs, which are issued by the competent authorities of the Member States of the EEA and only cover their respective territory, are available for products not falling within the mandatory scope of the Centralized Procedure. Where a product has already been authorized for marketing in a Member State of the EEA, this National MA can be recognized in another Member State through the Mutual Recognition Procedure. If the product has not received a National MA in any Member State at the time of application, it can be approved simultaneously in various Member States through the Decentralized Procedure.

Under the above described procedures, before granting the MA, the EMA or the competent authorities of the Member States of the EEA make an assessment of the risk-benefit balance of the product on the basis of scientific criteria concerning i ts quality, safety and efficacy.

We have had limited interactions with foreign regulatory authorities, and approval procedures vary among countries and can involve additional clinical testing. In addition, the time required to obtain approval from foreign regulatory authorities may differ from that required to obtain FDA approval. Clinical trials conducted in one country may not be accepted by regulatory authorities in other countries. Approval by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one or more foreign regulatory authorities does not ensure approval by regulatory authorities in other foreign countries or by the FDA. However, a failure or delay in obtaining regulatory approval in one country may have a negative effect on our ability to obtain approval in other countries. The foreign regulatory approval process 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 may or may not obtain foreign regulatory approvals on a timely basis, if at all. We may not be able to file for regulatory approvals and even if we file, we may not receive necessary approvals to commercialize our product candidates in any market.

Healthcare reform measures could hinder or prevent our product candidates' commercial success.

In the United States, there have been, and we expect there will continue to be, a number of legislative and regulatory changes to the healthcare system that could affect our future revenue and profitability and the future revenue and profitability of our potential customers. Federal and state lawmakers regularly propose and, at times, enact legislation that results in significant changes to the healthcare system, some of which is intended to contain or reduce the costs of medical products and services. For example, in March 2010, the President signed one of the most significant healthcare reform measures in decades, the Affordable Care Act ("ACA"). It contains a number of provisions, including those governing enrollment in federal healthcare programs, reimbursement changes and fraud and abuse measures, all of which will impact existing government healthcare programs and will result in the development of new programs. The ACA, among other things:

- imposes a non-deductible annual fee on pharmaceutical manufacturers or importers who sell "branded prescription drugs" to specified federal government programs;
- increases the minimum level of Medicaid rebates payable by manufacturers of brand-name drugs from 15.1% to 23.1%;
- imposes a 2.3% medical device excise tax that manufacturers and importers will be required to pay on their sales of certain medical devices, which, under the Consolidated Appropriations Act, 2016, is suspended from January 1, 2016 to December 31, 2017, and, absent further legislative action, will be reinstated starting January 1, 2018;
- requires collection of rebates for drugs paid by Medicaid managed care organizations;
- addresses new methodologies by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected, and for drugs that are line extension products;
- requires manufacturers to participate in a coverage gap discount program, under which they must agree to offer 50% point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D; and
- expands eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for certain individuals with income at or below 133% of the federal poverty level, thereby potentially increasing a manufacturer's Medicaid rebate liability.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA. As a result, there have been delays in the implementation of, and action taken to repeal or replace, certain aspects of the ACA. We expect that the current administration and U.S. Congress may continue to seek to modify, repeal, or otherwise invalidate all, or certain provisions of, the ACA. We cannot predict the ultimate content, timing or effect of any healthcare reform legislation or the impact of potential legislation on us.

Other legislative changes have been proposed and adopted in the United States since the ACA was enacted. These changes included aggregated reductions to Medicare payments to providers of up to 2% per fiscal year, which went into effect on April 1, 2013, and, due to subsequent legislative amendments, will remain in effect through 2025 unless additional Congressional action is taken. On January 2, 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, further reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers, and

increased the statute of limitations period for the government to recover overpayments to providers from three to five years. Recently, there has also been heightened governmental scrutiny over the manner in which drug manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed bills designed to, among other things, bri ng more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. We expect that additional state and federal healthcare reform m easures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our products once approved or additional pricing pressure s.

We are subject to healthcare laws, regulation and enforcement and our failure to comply with those laws could adversely affect our business, operations and financial condition.

Even though we do not and will not control referrals of healthcare services or bill directly to Medicare, Medicaid or other third-party payors, certain federal and state healthcare laws and regulations pertaining to fraud and abuse and patients' rights are and will be applicable to our business. We could be subject to healthcare fraud and abuse and patient privacy regulation by both the federal government and the states in which we conduct our business. The regulations that may affect our ability to operate include, without limitation:

- the federal Anti-Kickback Statute, which prohibits, among other things, any person from knowingly and willfully offering, soliciting, receiving or providing remuneration, directly or indirectly, to induce either the referral of an individual, for an item or service or the purchasing or ordering of a good or service, for which payment may be made under federal healthcare programs such as the Medicare and Medicaid programs;

- the federal False Claims Act, which prohibits, among other things, individuals or entities from knowingly presenting, or causing to be presented, false claims, or knowingly using false statements, to obtain payment from the federal government, and which may apply to entities that provide coding and billing advice to customers;

- federal criminal laws that prohibit executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

- the federal physician sunshine requirements under the ACA, which require manufacturers of drugs, devices, biologics, and medical supplies to report annually to the Centers for Medicare & Medicaid Services information related to payments and other transfers of value to physicians, other healthcare providers, and teaching hospitals, and ownership and investment interests held by physicians and other healthcare providers and their immediate family members;

- the federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, which governs the conduct of certain electronic healthcare transactions and protects the security and privacy of protected health information; and

- state law equivalents of each of the above federal laws, such as anti-kickback and false claims laws which may apply to items or services reimbursed by any third-party payor, including commercial insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the applicable compliance guidance promulgated by the federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures and pricing information; and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws. In addition, recent healthcare reform legislation has strengthened these laws. For example, the recently enacted ACA, among other things, amends the intent requirement of the Federal Anti-Kickback Statute and criminal healthcare fraud statutes. A person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it. In addition, the ACA provides that the government may assert that a claim including items or services resulting from a violation of the Federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act.

Achieving and sustaining compliance with these laws may prove costly. In addition, any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal and other related expenses and divert our management's attention from the operation of our business. If our operations are found to be in violation of any of the laws described above or any other governmental laws and regulations that apply to us, we may be subject to penalties, including civil and criminal

penalties, damages, fines, the exclusion from participation in federal and state h ealthcare programs, imprisonment, or the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our financial results.

Risks Related to Our Common Stock

The price of our common stock may be volatile and our stockholders may not be able to resell shares of our common stock at or above the price they paid.

There was no public market for our common stock prior to our IPO in March 2014, the trading volume of our common stock on The NASDAQ Global Market has been limited since then, and there can be no assurance that an active and liquid trading market for our common stock will be sustained. We cannot predict the extent to which investor interest in our company will lead to the development of or sustain an active trading market on The NASDAQ Global Market or otherwise or how liquid that market might become. If an active public market is not sustained, it may be difficult for stockholders to sell their shares of common stock at prices that are attractive to them, or at all. Further, an inactive market may also impair our ability to raise capital by selling shares of our common stock and may impair our ability to enter into strategic partnerships or acquire companies or products, product candidates or technologies by using our shares of common stock as consideration. The trading price of our common stock is highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. Factors that could cause volatility in the market price of our common stock include, but are not limited to:

- announcements relating to our current development and commercialization program for product candidates, including but not limited to plazomicin;
- results from, or any delays in, clinical trial programs relating to our product candidates;
- delays in commercializing or obtaining regulatory approval for our product candidates;
- any need to suspend or discontinue clinical trials due to side effects or other safety risks, or any need to conduct studies on the long-term effects associated with the use of our product candidates;
- capital fundraising or other financing activities that contain onerous or unfavorable terms;
- manufacturing issues related to our product candidates for clinical trials or future products for commercialization;
- commercial success and market acceptance of our product candidates following regulatory approval;
- undesirable side effects caused by product candidates after they have entered the market;
- spread of bacterial resistance to our product candidates;
- ability to discover, develop and commercialize additional product candidates;
- announcements relating to collaborations that we may enter into with respect to the development or commercialization of our product candidates, or the timing of payments we may make or receive under these arrangements;
- announcements relating to the receipt, modification or termination of government contracts or grants, or the timing of payments we may receive under these arrangements;
- success of our competitors in discovering, developing or commercializing products;
- delay or failure to successfully develop, validate and obtain regulatory clearance or approval of plazomicin in vitro diagnostic assay;
- strategic transactions undertaken by us;
- additions or departures of key personnel;
- product liability claims related to our clinical trials or product candidates;
- prevailing economic conditions;
- business disruptions caused by earthquakes or other natural disasters;
- disputes concerning our intellectual property or other proprietary rights;

- litigation or the threat of litigation;
- FDA or other U.S. or foreign regulatory actions affecting us or our industry;
- healthcare reform measures in the United States or other countries;
- sales of our common stock by our officers, directors or significant stockholders;
- future sales or issuances of equity or debt securities by us;
- fluctuations in our quarterly operating results; and
- the issuance of new or changed securities analysts' reports or recommendations regarding us.

In addition, the stock markets in general, and the markets for pharmaceutical, biopharmaceutical and biotechnology stocks in particular, have experienced extreme volatility that has been often unrelated to the operating performance of the issuer. These broad market fluctuations may adversely affect the trading price or liquidity of our common stock. In the past, when the market price of a stock has been volatile, holders of that stock have sometimes instituted securities class action litigation against the issuer. If any of our stockholders were to bring such a lawsuit against us, we could incur substantial costs defending the lawsuit and the attention of our management would be diverted from the operation of our business, which could seriously harm our financial position. Any adverse determination in litigation could also subject us to significant liabilities.

Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

As of September 30, 2017 our executive officers, directors, and their respective affiliates beneficially owned approximately 7% of our outstanding voting stock. Accordingly, these stockholders may continue to have significant influence over the outcome of corporate actions requiring stockholder approval, including the election of directors, any merger, consolidation or sale of all or substantially all of our assets or any other significant corporate transaction. The interests of these stockholders may not be the same as or may even conflict with your interests. For example, these stockholders could delay or prevent a change of control of our company, even if such a change of control would benefit our other stockholders, which could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company or our assets and might affect the prevailing market price of our common stock. The concentration of stock ownership may adversely affect the trading price of our common stock due to investors' perception that conflicts of interest may exist or arise.

We are an "emerging growth company" and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies" including not being required to comply with the auditor attestation requirements of section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements 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. We cannot predict if investors will find our common stock less attractive because we may rely 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. Based on our non-affiliated market capitalization as of June 30, 2017, we will cease to be an emerging growth company on January 1, 2018.

In addition, Section 102 of the JOBS Act also provides that an "emerging growth company" can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. An "emerging growth company" can therefore delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. However, we have chosen to "opt out" of such extended transition period, and as a result, we will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies. Section 107 of the JOBS Act provides that our decision to opt out of the extended transition period for complying with new or revised accounting standards is irrevocable.

Raising additional funds by issuing securities or through licensing or lending arrangements may cause dilution to our existing stockholders, restrict our operations or require us to relinquish proprietary rights.

To the extent that we raise additional capital by issuing equity securities, the share ownership of existing stockholders will be diluted. For example, on April 7, 2015, we filed a Registration Statement on Form S-3 (the "2015 Shelf Registration Statement"), covering the offering of up to $150 million of common stock, preferred stock, debt securities, warrants, purchase contracts and units.

The 2015 Shelf Registration Statement included a prospectus covering the offering, issuance and sale of up to $30.0 million of shares of ou r common stock from time to time in "at the market" ("ATM") offerings pursuant to a Common Stock Sales Agreement entered into with Cowen and Company, LLC (the "Sales Agreement") on April 7, 2015. Through September 30, 2017, we have sold 1,105,549 shares of common stock under the Sales Agreement, at a weighted-average price of approximately $4.82 per share for aggregate gross proceeds of $5.3 million.

On December 19, 2016, we completed an underwritten public offering of 7,475,000 shares of our common stock, at a price of $13.50 per share, including the full exercise of the underwriters' option to purchase an additional 975,000 shares of common stock. We received net proceeds from the offering of $94.6 million, after deducting the underwriting discounts and commissions and estimated offering expenses. As of September 30, 2017, approximately $43.8 million in securities remained unissued under the 2015 Shelf Registration Statement, including up to $24.7 million of common stock available to be sold under the Sales Agreement, subject to certain conditions specified therein.

In addition, on May 31, 2017, we completed an underwritten public offering of 5,750,000 shares of our common stock, at a price of $22.50 per share, including the full exercise of the underwriters' option to purchase an additional 750,000 shares of common stock on June 9, 2017. We received net proceeds from the offering of $121.2 million, after deducting the underwriting discounts and commissions and offering expenses.

Any future debt financing may involve covenants that restrict our operations, including, among other restrictions, limitations on our ability to incur liens or additional debt, pay dividends, redeem our stock, make certain investments, and engage in certain merger, consolidation, or asset sale transactions. In addition, if we raise additional funds through licensing arrangements, it may be necessary to grant potentially valuable rights to our product candidates or grant licenses on terms that are not favorable to us. Further, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, including under our ATM, the issuance of these securities could result in further dilution to our stockholders or result in downward pressure on the price of our common stock.

Future sales by our existing holders of our common stock or securities convertible or exchangeable for our common stock may depress our stock price.

If our existing stockholders or holders of our options or warrants sell, or indicate an intention to sell, substantial amounts of our common stock in the public market, the market price of our common stock could decline. The perception in the market that these sales may occur could also cause the trading price of our common stock to decline. As of September 30, 2017, we have outstanding a total of 42,232,087 shares of common stock. Other than any shares held by our directors, officers and certain existing investors, all of these are currently freely tradable.

In addition, based on the number of shares subject to outstanding awards under our Amended and Restated 2003 Stock Plan (the "2003 Plan") or subject to outstanding awards or available for issuance under our 2014 Equity Incentive Award Plan (our "2014 Plan"), our 2014 Employment Commencement Incentive Plan (our "Inducement Plan") and our 2014 Employee Stock Purchase Plan (our "ESPP"), in each case, as of September 30, 2017, 7,125,945 shares of common stock that are either subject to outstanding awards, outstanding but subject to vesting, or reserved for future issuance under our 2003 Plan, 2014 Plan, Inducement Plan or ESPP will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules. We have filed registration statements permitting shares of common stock issued in the future pursuant to the 2003 Plan, 2014 Plan, Inducement Plan or ESPP to be freely resold by plan participants in the public market and, for shares held by directors, executive officers and other affiliates, subject to compliance with Rule 144. The 2014 Plan and ESPP also contain a provision for the annual increase of the number of shares reserved for issuance under such plan, which shares we also intend to register in the future as such annual increases occurs. If the shares we may issue from time to time under the 2003 Plan, 2014 Plan, the Inducement Plan or ESPP are sold, or if it is perceived that they will be sold, by the award recipient in the public market, the trading price of our common stock could decline.

As of November 2, 2017, certain holders of 1,746,461 shares of our common stock, and warrants exercisable for 17,514 shares of our common stock are entitled to rights with respect to the registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares purchased by affiliates. Sales of such shares could also cause the trading price of our common stock to decline.

Provisions of our charter documents or Delaware law could delay o r prevent an acquisition of our company, even if the acquisition would be beneficial to our stockholders, and could make it more difficult for you to change management.

Provisions in our certificate of incorporation and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. In addition, these provisions may frustrate or prevent any attempt by our stockholders to replace or remove our current management by making it more difficult to replace or remove our board of directors. These provisions include:

- a classified board of directors so that not all directors are elected at one time;
- a prohibition on stockholder action through written consent;
- no cumulative voting in the election of directors;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director;
- a requirement that special meetings of stockholders be called only by the board of directors, the chairman of the board of directors, the chief executive officer or, in the absence of a chief executive officer, the president;
- an advance notice requirement for stockholder proposals and nominations;
- directors may not be removed without cause and may only be removed with cause by the affirmative vote of 66 2/3% of all outstanding shares of our capital stock with the power to vote in the election of directors;
- the authority of our board of directors to issue preferred stock with such terms as our board of directors may determine; and
- a requirement of approval of not less than 66 2/3% of all outstanding shares of our capital stock with the power to vote to amend any bylaws by stockholder action, or to amend specific provisions of our certificate of incorporation.

In addition, Delaware law prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder, generally a person who, together with its affiliates, owns or within the last three years has owned 15% or more of our voting stock, for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. Accordingly, Delaware law may discourage, delay or prevent a change in control of our company. Furthermore, our amended and restated certificate of incorporation specifies that the Court of Chancery of the State of Delaware will be the sole and exclusive forum for most legal actions involving actions brought against us by stockholders. We believe this provision benefits us by providing increased consistency in the application of Delaware law by chancellors particularly experienced in resolving corporate disputes, efficient administration of cases on a more expedited schedule relative to other forums and protection against the burdens of multi-forum litigation. However, the provision may have the effect of discouraging lawsuits against our directors and officers. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with any applicable action brought against us, a court could find the choice of forum provisions contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in such action.

Provisions in our charter and other provisions of Delaware law could limit the price that investors are willing to pay in the future for shares of our common stock.

If we commit certain material breaches under the research agreement with the Gates Foundation, and fail to cure them, we may be required to redeem shares of our common stock held by the Gates Foundation and its affiliates.

In the event of termination of the research agreement by the Gates Foundation for certain specified uncured material breaches by us, we will be obligated, among other remedies, to either redeem our common stock purchased by the Gates Foundation in connection with the research agreement, facilitate the purchase of such common stock by a third party or elect to register the resale of such common stock into the public markets unless certain specified conditions are satisfied. If we are required to redeem such shares of common stock, our financial condition could be materially and adversely affected.

We do not anticipate paying any cash dividends on our capital stock in the foreseeable future; as a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

We have never declared or paid cash dividends on our capital stock. We do not anticipate paying any cash dividends on our capital stock in the foreseeable future. We currently intend to retain all available funds and any future earnings to fund the

development and growth of our business. In addition, the terms of any future deb t financing arrangement may contain terms prohibiting or limiting the amount of dividends that may be declared or paid on our common stock. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

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

The trading market for our common stock will depend, in part, on the research and reports that securities or industry analysts publish about us or our business. If one or more of the analysts who cover us downgrade our stock or publish inaccurate or unfavorable research about our business, our stock price would likely decline. In addition, if our operating results fail to meet the forecast of analysts, our stock price would likely decline. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline.

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

(a) Recent Sales of Unregistered Equity Securities

None.

(b) Use of Proceeds

None.

(c) Issuer Purchases of Equity Securities

Not applicable.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

Item 6. Exhibits.

EXHIBIT INDEX

Exhibit Number	Description of Document	Incorporated by Reference from				Provided Herewith
		Registrant's Form	File No.	Date Filed with the SEC	Exhibit Number	
3.1	Amended and Restated Certificate of Incorporation of Achaogen, Inc.	8-K	001-36323	3/17/2014	3.1	
3.2	Amended and Restated Bylaws of Achaogen, Inc.	8-K	001-36323	3/17/2014	3.2	
4.1	Reference is made to Exhibits 3.1 through 3.2.					
4.2	Form of Common Stock Certificate.	S-1/A	333-193559	3/10/2014	4.1	
4.3	Warrant issued to Oxford Finance LLC on November 1, 2011.	S-1	333-193559	1/24/2014	4.4	
4.5	Warrant issued to Oxford Finance LLC on April 30, 2012 (Term A Loan (2)).	S-1	333-193559	1/24/2014	4.6	
4.6	Warrant issued to Oxford Finance LLC on April 30, 2012 (Term B Loan).	S-1	333-193559	1/24/2014	4.7	
4.7	Form of Warrant, issued pursuant to the Securities Purchase Agreement, dated June 1, 2016, by and among Achaogen, Inc. and the purchasers named therein.	S-3	333-212253	6/24/2016	4.3	
10.1#	Achaogen, Inc. 2014 Employment Commencement Incentive Plan					X
10.2	Second Amendment to Lease, effective as of July 20, 2017, by and between AP3-SF2 CT South, LLC and Achaogen, Inc.					X
10.3	Third Amendment to Lease, effective August 17, 2017, by and between AP3-SF2 CT South, LLC and Achaogen, Inc.					X
31.1	Certification of Principal Executive Officer Required Under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended.					X
31.2	Certification of Principal Financial Officer Required Under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended.					X
32.1*	Certification of Principal Executive Officer and Principal Financial Officer Required Under Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. §1350.					X
101.INS	XBRL Instance Document.					X
101.SCH	XBRL Taxonomy Extension Schema Document.					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.					X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.					X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.					X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.					X

# Indicates management contract or compensatory plan.

* The certification attached as Exhibit 32.1 that accompanies this Quarterly Report on Form 10-Q is not deemed filed with the SEC and is not to be incorporated by reference into any filing of Achaogen, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Form 10-Q, irrespective of any general incorporation language contained in such filing.

SIGNA TURES

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

Date: November 8, 2017

ACHAOGEN, INC.

By: /s/ Kenneth J. Hillan
Kenneth J. Hillan, M.B., Ch. B.
Chief Executive Officer
(principal executive officer)

Date: November 8, 2017

By: /s/ Tobin C. Schilke
Tobin C. Schilke
Chief Financial Officer
(principal financial and accounting officer)

ACHAOGEN, INC.
2014 EMPLOYMENT COMMENCEMENT INCENTIVE PLAN

(as amended by the Board on September 13, 2017)

ARTICLE 1.

PURPOSE

The purpose of the Achaogen, Inc. 2014 Employment Commencement Incentive Plan (as it may be amended from time to time, the " Plan ") is to promote the success and enhance the value of Achaogen, Inc. (the " Company ") by linking the individual interests of the members of the Eligible Participants to those of the Company's stockholders and by providing such individuals with an incentive for outstanding performance to generate superior returns to the Company's stockholders. The Plan is further intended to provide flexibility to the Company in its ability to motivate, attract, and retain the services of members of the Board, Employees, and Consultants upon whose judgment, interest, and special effort the successful conduct of the Company's operation is largely dependent. Only Eligible Participants may receive awards under the Plan.

ARTICLE 2.

DEFINITIONS AND CONSTRUCTION

Wherever the following terms are used in the Plan they shall have the meanings specified below, unless the context clearly indicates otherwise. The singular pronoun shall include the plural where the context so indicates.

2.1 " Administrator " shall mean the entity that conducts the general administration of the Plan as provided in Article 12 hereof. With reference to the duties of the Administrator under the Plan which have been delegated to one or more persons pursuant to Section 12.6 hereof, or as to which the Board has assumed, the term "Administrator" shall refer to such person(s) unless the Committee or the Board has revoked such delegation or the Board has terminated the assumption of such duties. For the avoidance of doubt, only the Committee or the Board may grant Awards under the Plan.

2.2 " Affiliate " shall mean any Parent or Subsidiary.

2.3 " Applicable Accounting Standards " shall mean Generally Accepted Accounting Principles in the United States, International Financial Reporting Standards or such other accounting principles or standards as may apply to the Company's financial statements under United States federal securities laws from time to time.

2.4 " Applicable Law " shall mean any applicable law, including without limitation, (i) provisions of the Code, the Securities Act, the Exchange Act and any rules or regulations thereunder; (ii) corporate, securities, tax or other laws, statutes, rules, requirements or regulations,

whether federal, state, local or foreign; and (iii) rules of any securities exchange or automated quotation system on which the Shares are listed, quoted or traded.

2.5 " Award " shall mean an Option, a Restricted Stock award, a Restricted Stock Unit award, a Performance Award, a Dividend Equivalents award, a Deferred Stock award, a Deferred Stock Unit award, a Stock Payment award or a Stock Appreciation Right, which may be awarded or granted under the Plan (collectively, " Awards ").

2.6 " Award Agreement " shall mean any written notice, agreement, terms and conditions, contract or other instrument or document evidencing an Award, including through electronic medium, which shall contain such terms and conditions with respect to an Award as the Administrator shall determine consistent with the Plan.

2.7 " Board " shall mean the Board of Directors of the Company.

2.8 " Cause " shall mean, unless such term or an equivalent term is otherwise defined by the applicable Award Agreement or other written agreement between a Participant and the Company applicable to an Award, the occurrence of any of the following events: (i) an act of dishonesty made by the Participant in connection with his or her responsibilities as a Service Provider, (ii) the Participant's conviction of, or plea of nolo contendere to, a felony, (iii) the Participant's gross misconduct, or (iv) the Participant's continued substantial violations of his or her duties as a Service Provider after such Participant has received a written demand for performance from the Company which specifically sets forth the factual basis for the Company's belief that such Participant has not substantially performed his or her duties. The determination that a Participant's Termination of Service is either for Cause or without Cause shall be made by the Company in its sole discretion. Any determination by the Company that a Participant experienced a Termination of Service by reason of dismissal without Cause for the purposes of outstanding Awards held by such Participant shall have no effect upon any determination of the rights or obligations of the Company or such Participant for any other purpose.

2.9 " Change in Control " shall mean the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(a) A transaction or series of transactions (other than an offering of Common Stock to the general public through a registration statement filed with the Securities and Exchange Commission) whereby any "person" or related "group" of "persons" (as such terms are used in Sections 13(d) and 14(d)(2) of the Exchange Act) (other than the Company, any of its subsidiaries, an employee benefit plan maintained by the Company or any of its subsidiaries or a "person" that, prior to such transaction, directly or indirectly controls, is controlled by, or is under common control with, the Company) directly or indirectly acquires beneficial ownership (within the meaning of Rule 13d-3 under the Exchange Act) of securities of the Company possessing more than 50% of the total combined voting power of the Company's securities outstanding immediately after such acquisition; or

(b) During any period of two consecutive years, individuals who, at the beginning of such period, constitute the Board together with any new Director(s) (other than a Director designated by a person who shall have entered into an agreement with the Company to

effect a transaction described in Section 2.9(a) or 2.9(c)) whose election by the Board or nomination for election by the Company's stockholders was approved by a vote of at least two-thirds of the Directors then still in office who either were Directors a t the beginning of the two-year period or whose election or nomination for election was previously so approved, cease for any reason to constitute a majority thereof; or

(c) The consummation by the Company (whether directly involving the Company or indirectly involving the Company through one or more intermediaries) of (x) a merger, consolidation, reorganization, or business combination or (y) a sale or other disposition of all or substantially all of the Company's assets in any single transaction or series of related transactions or (z) the acquisition of assets or stock of another entity, in each case other than a transaction:

(i) which results in the Company's voting securities outstanding immediately before the transaction continuing to represent (either by remaining outstanding or by being converted into voting securities of the Company or the person that, as a result of the transaction, controls, directly or indirectly, the Company or owns, directly or indirectly, all or substantially all of the Company's assets or otherwise succeeds to the business of the Company (the Company or such person, the " Successor Entity ")) directly or indirectly, at least a majority of the combined voting power of the Successor Entity's outstanding voting securities immediately after the transaction, and

(ii) after which no person or group beneficially owns voting securities representing 50% or more of the combined voting power of the Successor Entity; provided, however, that no person or group shall be treated for purposes of this Section 2.9(c)(ii) as beneficially owning 50% or more of the combined voting power of the Successor Entity solely as a result of the voting power held in the Company prior to the consummation of the transaction; or

(d) The Company's stockholders approve a liquidation or dissolution of the Company.

Notwithstanding the foregoing, if a Change in Control constitutes a payment event with respect to any portion of an Award that provides for the deferral of compensation and is subject to Section 409A of the Code, the transaction or event described in subsection (a), (b), (c) or (d) with respect to such Award (or portion thereof) must also constitute a "change in control event," as defined in Treasury Regulation Section 1.409A-3(i)(5) to the extent required by Section 409A.

The Committee shall have full and final authority, which shall be exercised in its discretion, to determine conclusively whether a Change in Control of the Company has occurred pursuant to the above definition, and the date of the occurrence of such Change in Control and any incidental matters relating thereto.

2.10 " Code " shall mean the Internal Revenue Code of 1986, as amended from time to time, together with the regulations and official guidance promulgated thereunder, whether issued prior or subsequent to the grant of any Award.

2.11 " Committee " shall mean the Compensation Committee of the Board.

2.12 " Common Stock " shall mean the common stock of the Company, par value $0.001 per share.

2.13 " Company " shall have the meaning set forth in Article 1 hereof.

2.14 " Deferred Stock " shall mean a right to receive Shares awarded under Section 9.4 hereof.

2.15 " Deferred Stock Unit " shall mean a right to receive Shares awarded under Section 9.5 hereof.

2.16 " Director " shall mean a member of the Board, as constituted from time to time.

2.17 " Dividend Equivalent " shall mean a right to receive the equivalent value (in cash or Shares) of dividends paid on Shares, awarded under Section 9.2 hereof.

2.18 " DRO " shall mean a "domestic relations order" as defined by the Code or Title I of the Employee Retirement Income Security Act of 1974, as amended from time to time, or the rules thereunder.

2.19 " Effective Date " shall mean the date on which the Board has adopted the Plan.

2.20 " Eligible Participant " shall mean any Employee who has not previously been an Employee or Director of the Company or a Subsidiary, or is commencing employment with the Company or a Subsidiary following a bona fide period of non-employment by the Company or a Subsidiary, if he or she is granted an Award in connection with his or her commencement of employment with the Company or a Subsidiary and such grant is an inducement material to his or her entering into employment with the Company or a Subsidiary. The Board may in its discretion adopt procedures from time to time to ensure that an Employee is eligible to participate in the Plan prior to the granting of any Awards to such Employee under the Plan (including, without limitation, a requirement, that each such Employee certify to the Company prior to the receipt of an Award under the Plan that he or she has not been previously employed by the Company or a Subsidiary, or if previously employed, has had a bona fide period of non-employment, and that the grant of Awards under the Plan is an inducement material to his or her agreement to enter into employment with the Company or a Subsidiary).

2.21 " Employee " shall mean any officer or other employee (as determined in accordance with Section 3401(c) of the Code and the Treasury Regulations thereunder) of the Company or any Affiliate.

2.22 " Equity Restructuring " shall mean a nonreciprocal transaction between the Company and its stockholders, such as a stock dividend, stock split, spin-off, rights offering or recapitalization through a large, nonrecurring cash dividend, that affects the number or kind of Shares (or other securities of the Company) or the share price of Common Stock (or other securities) and causes a change in the per share value of the Common Stock underlying outstanding stock-based Awards.

2.23 " Exchange Act " shall mean the Securities Exchange Act of 1934, as amended from time to time.

2.24 " Fair Market Value " shall mean, as of any given date, the value of a Share determined as follows:

(a) If the Common Stock is (i) listed on any established securities exchange (such as the New York Stock Exchange, the NASDAQ Global Market and the NASDAQ Global Select Market), (ii) listed on any national market system or (iii) listed, quoted or traded on any automated quotation system, its Fair Market Value shall be the closing sales price for a Share as quoted on such exchange or system for such date or, if there is no closing sales price for a Share on the date in question, the closing sales price for a Share on the last preceding date for which such quotation exists, as reported in The Wall Street Journal or such other source as the Administrator deems reliable;

(b) If the Common Stock is not listed on an established securities exchange, national market system or automated quotation system, but the Common Stock is regularly quoted by a recognized securities dealer, its Fair Market Value shall be the mean of the high bid and low asked prices for such date or, if there are no high bid and low asked prices for a Share on such date, the high bid and low asked prices for a Share on the last preceding date for which such information exists, as reported in The Wall Street Journal or such other source as the Administrator deems reliable; or

(c) If the Common Stock is neither listed on an established securities exchange, national market system or automated quotation system nor regularly quoted by a recognized securities dealer, its Fair Market Value shall be established by the Administrator in good faith.

2.25 " Good Reason " shall mean, unless such term or an equivalent term is otherwise defined by the applicable Award Agreement or other written agreement between a Participant and the Company applicable to an Award, with respect to any particular Participant, the Participant's resignation from all positions he or she then-holds with the Company if (A) without Participant's written consent (I) there is a material reduction of the Participant's base salary; *provided* , *however* , that a material reduction in the Participant's base salary pursuant to a salary reduction program affecting all or substantially all of the employees of the Company and that does not adversely affect Participant to a greater extent than other similarly situated employees shall not constitute Good Reason; or (II) the Participant is required to relocate his or her primary work location to a facility or location that would increase the Participant's one way commute distance by more than fifty (50) miles from the Participant's primary work location as of immediately prior to such change, (B) the Participant provides written notice outlining such conditions, acts or omissions to the Company's General Counsel within thirty (30) days immediately following such material change or reduction, (C) such material change or reduction is not remedied by the Company within thirty (30) days following the Company's receipt of such written notice and (D) the Participant's resignation is effective not later than thirty (30) days after the expiration of such thirty (30) day cure period.

2.26 " Holder " shall mean an Eligible Participant who has been granted an Award.

2.27 " Incentive Stock Option " shall mean an Option that is intended to qualify as an incentive stock option and conforms to the applicable provisions of Section 422 of the Code. Incentive Stock Options may not be granted under the Plan.

2.28 " Non-Employee Director " shall mean a Director of the Company who is not an Employee of the Company and who qualifies as "independent" within the meaning of Nasdaq Stock Market Rule 5605(a)(2), or any successor rule, if the Company's securities are traded on the Nasdaq Stock Market, or the requirements of any other established stock exchange on which the Company's securities are traded, as such rules or requirements may be amended from time to time.

2.29 " Non-Qualified Stock Option " shall mean an Option that is not an Incentive Stock Option.

2.30 " Option " shall mean a right to purchase Shares at a specified exercise price, granted under Article 5 hereof. Any Option granted under this Plan shall be a Non-Qualified Stock Option.

2.31 " Option Term " shall have the meaning set forth in Section 5.4 hereof.

2.32 " Parent " shall mean any entity (other than the Company), whether domestic or foreign, in an unbroken chain of entities ending with the Company if each of the entities other than the Company beneficially owns, at the time of the determination, securities or interests representing more than fifty percent (50%) of the total combined voting power of all classes of securities or interests in one of the other entities in such chain.

2.33 " Performance Award " shall mean a cash bonus award, stock bonus award, performance award or incentive award that is paid in cash, Shares or a combination of both, awarded under Section 9.1 hereof.

2.34 " Performance Stock Unit " shall mean a Performance Award awarded under Section 9.1 hereof which is denominated in units of value including dollar value of shares of Common Stock.

2.35 " Permitted Transferee " shall mean, with respect to a Holder, any "family member" of the Holder, as defined under the General Instructions to Form S-8 Registration Statement under the Securities Act or any successor Form thereto, or any other transferee specifically approved by the Administrator, after taking into account Applicable Law.

2.36 " Plan " shall have the meaning set forth in Article 1 hereof.

2.37 " Program " shall mean any program adopted by the Administrator pursuant to the Plan containing the terms and conditions intended to govern a specified type of Award granted under the Plan and pursuant to which such type of Award may be granted under the Plan.

2.38 " Restricted Stock " shall mean an award of Shares made under Article 7 hereof that is subject to certain restrictions and may be subject to risk of forfeiture or repurchase.

2.39 " Restricted Stock Unit " shall mean a contractual right awarded under Article 8 hereof to receive in the future a Share or the Fair Market Value of a Share in cash.

2.40 " Securities Act " shall mean the Securities Act of 1933, as amended.

2.41 " Shares " shall mean shares of Common Stock.

2.42 " Stock Appreciation Right " shall mean a stock appreciation right granted under Article 10 hereof.

2.43 " Stock Appreciation Right Term " shall have the meaning set forth in Section 10.4 hereof.

2.44 " Stock Payment " shall mean (a) a payment in the form of Shares, or (b) an option or other right to purchase Shares, as part of a bonus, deferred compensation or other arrangement, awarded under Section 9.3 hereof.

2.45 " Subsidiary " shall mean any entity (other than the Company), whether domestic or foreign, in an unbroken chain of entities beginning with the Company if each of the entities other than the last entity in the unbroken chain beneficially owns, at the time of the determination, securities or interests representing more than fifty percent (50%) of the total combined voting power of all classes of securities or interests in one of the other entities in such chain.

2.46 " Substitute Award " shall mean an Award granted under the Plan upon the assumption of, or in substitution for, outstanding equity awards previously granted by a company or other entity in connection with a corporate transaction, such as a merger, combination, consolidation or acquisition of property or stock; provided , however , that in no event shall the term "Substitute Award" be construed to refer to an award made in connection with the cancellation and repricing of an Option or Stock Appreciation Right.

2.47 " Termination of Service " shall mean the time when the employee-employer relationship between a Holder and the Company or any Affiliate is terminated for any reason, including, without limitation, a termination by resignation, discharge, death, disability or retirement; but excluding terminations where the Holder simultaneously commences or remains in employment or service with the Company or any Affiliate.

The Administrator, in its sole discretion, shall determine the effect of all matters and questions relating to Terminations of Service, including, without limitation, the question of whether a Termination of Service resulted from a discharge for cause and all questions of whether particular leaves of absence constitute a Termination of Service. For purposes of the Plan, a Holder's employee-employer relationship or consultancy relations shall be deemed to be terminated in the event that the Affiliate employing or contracting with such Holder ceases to remain an Affiliate following any merger, sale of stock or other corporate transaction or event (including, without limitation, a spin-off).

ARTICLE 3.

SHARES SUBJECT TO THE PLAN

3.1 Number of Shares.

(a) Subject to Sections 13.1, 13.2 and 3.1(b) hereof, the aggregate number of Shares which may be issued or transferred pursuant to Awards under the Plan shall be 2,050,000 Shares. Notwithstanding the foregoing, to the extent permitted under Applicable Law, Awards that provide for the delivery of Shares subsequent to the applicable grant date may be granted in excess of the Share Limit if such Awards provide for the forfeiture or cash settlement of such Awards to the extent that insufficient Shares remain under the share limit in this Section 3.1 at the time that Shares would otherwise be issued in respect of such Award.

(b) If any Shares subject to an Award are forfeited or expire or such Award is settled for cash (in whole or in part), the Shares subject to such Award shall, to the extent of such forfeiture, expiration or cash settlement, again be available for future grants of Awards under the Plan. Notwithstanding anything to the contrary contained herein, the following Shares shall not be added to the Shares authorized for grant under Section 3.1(a) hereof and will not be available for future grants of Awards: (i) Shares tendered by a Holder or withheld by the Company in payment of the exercise price of an Option; (ii) Shares tendered by the Holder or withheld by the Company to satisfy any tax withholding obligation with respect to an Award; (iii) Shares subject to a Stock Appreciation Right that are not issued in connection with the stock settlement of the Stock Appreciation Right on exercise thereof; and (iv) Shares purchased on the open market with the cash proceeds from the exercise of Options. Any Shares repurchased by the Company under Section 7.4 hereof at the same price paid by the Holder or a lower price so that such Shares are returned to the Company will again be available for Awards. The payment of Dividend Equivalents in cash in conjunction with any outstanding Awards shall not be counted against the shares available for issuance under the Plan.

(c) Substitute Awards shall not reduce the Shares authorized for grant under the Plan. Additionally, in the event that a company acquired by the Company or any Affiliate or with which the Company or any Affiliate combines has shares available under a pre-existing plan approved by its stockholders and not adopted in contemplation of such acquisition or combination, the shares available for grant pursuant to the terms of such pre-existing plan (as adjusted, to the extent appropriate, using the exchange ratio or other adjustment or valuation ratio or formula used in such acquisition or combination to determine the consideration payable to the holders of common stock of the entities party to such acquisition or combination) may be used for Awards under the Plan and shall not reduce the Shares authorized for grant under the Plan; provided that Awards using such available shares shall not be made after the date awards or grants could have been made under the terms of the pre-existing plan, absent the acquisition or combination, and shall only be made to individuals who were not employed by or providing services to the Company or its Affiliates immediately prior to such acquisition or combination.

3.2 Stock Distributed . Any Shares distributed pursuant to an Award may consist, in whole or in part, of authorized and unissued Common Stock, treasury Common Stock or Common Stock purchased on the open market.

ARTICLE 4.

GRANTING OF AWARDS

4.1 Participation . The Committee and the Board may, from time to time, select from among all Eligible Participants, those to whom an Award shall be granted and shall determine the nature and amount of each Award, which shall not be inconsistent with the requirements of the Plan. No Eligible Individual shall have any right to be granted an Award pursuant to the Plan.

4.2 Award Agreement. Each Award shall be evidenced by an Award Agreement that sets forth the terms, conditions and limitations for such Award, which may include the term of the Award, the provisions applicable in the event of the Holder's Termination of Service, and the Company's authority to unilaterally or bilaterally amend, modify, suspend, cancel or rescind an Award.

4.3 Limitations Applicable to Section 16 Persons . Notwithstanding any other provision of the Plan, the Plan, and any Award granted or awarded to any individual who is then subject to Section 16 of the Exchange Act, shall be subject to any additional limitations set forth in any applicable exemptive rule under Section 16 of the Exchange Act (including Rule 16b-3 of the Exchange Act and any amendments thereto) that are requirements for the application of such exemptive rule. To the extent permitted by Applicable Law, the Plan and Awards granted or awarded hereunder shall be deemed am ended to the extent necessary to conform to such applicable exemptive rule.

4.4 At-Will Employment; Voluntary Participation . Nothing in the Plan or in any Program or Award Agreement hereunder shall confer upon any Holder any right to continue in the employ of the Company or any Affiliate, or shall interfere with or restrict in any way the rights of the Company and any Affiliate, which rights are hereby expressly reserved, to discharge any Holder at any time for any reason whatsoever, with or without cause, and with or without notice, or to terminate or change all other terms and conditions of employment, except to the extent expressly provided otherwise in a written agreement between the Holder and the Company or any Affiliate. Participation by each Holder in the Plan shall be voluntary and nothing in the Plan shall be construed as mandating that any Eligible Individual shall participate in the Plan.

4.5 Foreign Holders . Notwithstanding any provision of the Plan to the contrary, in order to comply with the laws in countries other than the United States in which the Company and its Affiliates operate or have Employees, or in order to comply with the requirements of any foreign securities exchange, the Administrator, in its sole discretion, shall have the power and authority to: (a) determine which Affiliates shall be covered by the Plan; (b) determine which Eligible Participants outside the United States are eligible to participate in the Plan; (c) modify the terms and conditions of any Award granted to Eligible Participants outside the United States to comply with applicable foreign laws or listing requirements of any such foreign securities exchange; (d) establish subplans and modify exercise procedures and other terms and procedures, to the extent such actions may be necessary or advisable (any such subplans and/or modifications shall be attached to the Plan as appendices); provided , however , that no such subplans and/or modifications shall increase the share limitations contained in Section 3.1 hereof; and (e) take any action, before

or after an Award is made, that it deems advisable to obtain approval or comply with any necessary local governmental regulatory exemptions or approvals or listing requirements of any such foreign securities exchange. Notwithstanding the foregoing, the Administrator may not take any actions hereunder, and no Awards shall be granted, that would violate the Code, the Exchange Act, the Securiti es Act, any other securities law or governing statute, the rules of the securities exchange or automated quotation system on which the Shares are listed, quoted or traded or any other Applicable Law. For purposes of the Plan, all references to foreign law s, rules, regulations or taxes shall be references to the laws, rules, regulations and taxes of any applicable jurisdiction other than the United States or a political subdivision thereof.

4.6 Stand-Alone and Tandem Awards Awards granted pursuant to the Plan may, in the sole discretion of the Administrator, be granted either alone, in addition to, or in tandem with, any other Award granted pursuant to the Plan. Awards granted in addition to or in tandem with other Awards may be granted either at the same time as or at a different time from the grant of such other Awards.

ARTICLE 5.

GRANTING OF OPTIONS

5.1 Granting of Options to Eligible Participants. Each of the Committee and the Board is authorized to grant Options to Eligible Participants from time to time, in its sol e discretion, on such terms and conditions as it may determine which shall not be inconsistent with the Plan.

5.2 Option Exercise Price. Except as provided in Article 13 hereof, the exercise price per Share subject to each Option shall be set by the Committee or the Board, but shall not be less than one hundred percent (100%) of the Fair Market Value of a Share on the date the Option is granted.

5.3 Option Term . The term of each Option (the " Option Term ") shall be set by the Administrator in its sole discretion; provided , however , that the Option Term shall not be more than ten (10) years from the date the Option is granted. The Administrator shall determine the time period, including the time period following a Termination of Service, during which the Holder has the right to exercise the vested Options, which time period may not extend beyond the last day of the Option Term. The Administrator may extend the Option Term of any outstanding Option, may extend the time period during which vested Options may be exercised following any Termination of Service of the Holder, and may amend any other term or condition of such Option relating to such a Termination of Service.

5.4 Option Vesting .

(a) The period during which the right to exercise, in whole or in part, an Option vests in the Holder shall be set by the Administrator and the Administrator may determine that an Option may not be exercised in whole or in part for a specified period after it is granted. Such vesting may be based on service with the Company or any Affiliate, any of performance criteria, or any other criteria selected by the Administrator. At any time after the grant of an Option, the

Administrator may, in its sole discretion and subject to whatever terms and conditions it selects, accelerate the vesting of the Option, including following a Termination of Service; provided, that in no event shall an Option become exercisable following its expiration, termination or forfeiture.

(b) No portion of an Option which is unexercisable at a Holder's Termination of Service shall thereafter become exercisable, except as may be otherwise provided by the Administrator either in the Program, the Award Agreement or by action of the Administrator following the grant of the Option.

5.5 Substitute Awards . Notwithstanding the foregoing provisions of this Article 5 to the contrary, in the case of an Option that is a Substitute Award, the price per share of the shares subject to such Option may be less than the Fair Market Value per share on the date of grant; provided that the excess of: (a) the aggregate Fair Market Value (as of the date such Substitute Award is granted) of the shares subject to the Substitute Award, over (b) the aggregate exercise price thereof does not exceed the excess of: (x) the aggregate fair market value (as of the time immediately preceding the transaction giving rise to the Substitute Award, such fair market value to be determined by the Administrator) of the shares of the predecessor entity that were subject to the grant assumed or substituted for by the Company, over (y) the aggregate exercise price of such shares.

5.6 Substitution of Stock Appreciation Rights . The Administrator may provide in the applicable Program or the Award Agreement evidencing the grant of an Option that the Administrator, in its sole discretion, shall have the right to substitute a Stock Appreciation Right for such Option at any time prior to or upon exercise of such Option; provided that such Stock Appreciation Right shall be exercisable with respect to the same number of Shares for which such substituted Option would have been exercisable, and shall also have the same exercise price, vesting schedule and remaining Option Term as the substituted Option.

ARTICLE 6.

EXERCISE OF OPTIONS

6.1 Partial Exercise . An exercisable Option may be exercised in whole or in part. However, an Option shall not be exercisable with respect to fractional shares and the Administrator may require that, by the terms of the Option, a partial exercise must be with respect to a minimum number of Shares.

6.2 Manner of Exercise . All or a portion of an exercisable Option shall be deemed exercised upon delivery of all of the following to the Secretary of the Company, or such other person or entity designated by the Administrator, or his, her or its office, as applicable:

(a) A written or electronic notice complying with the applicable rules established by the Administrator stating that the Option, or a portion thereof, is exercised. The notice shall be signed by the Holder or other person then entitled to exercise the Option or such portion of the Option;

(b) Such representations and documents as the Administrator, in its sole discretion, deems necessary or advisable to effect compliance with all Applicable Law. The

Administrator may, in its sole discretion, also take whatever additional action s it deems appropriate to effect such compliance including, without limitation, placing legends on share certificates and issuing stop-transfer notices to agents and registrars;

(c) In the event that the Option shall be exercised pursuant to Section 11.3 hereof by any person or persons other than the Holder, appropriate proof of the right of such person or persons to exercise the Option, as determined in the sole discretion of the Administrator; and

(d) Full payment of the exercise price and applicable withholding taxes to the stock administrator of the Company for the shares with respect to which the Option, or portion thereof, is exercised, in a manner permitted by Section 11.1 and 11.2 hereof.

ARTICLE 7.

AWARD OF RESTRICTED STOCK

7.1 Award of Restricted Stock .

(a) Each of the Committee and the Board is authorized to grant Restricted Stock to Eligible Participants, and shall determine the terms and conditions, including the restrictions applicable to each award of Restricted Stock, which terms and conditions shall not be inconsistent with the Plan, and may impose such conditions on the issuance of such Restricted Stock as it deems appropriate.

(b) The Administrator shall establish the purchase price, if any, and form of payment for Restricted Stock; provided , however , that if a purchase price is charged, such purchase price shall be no less than the par value, if any, of the Shares to be purchased, unless otherwise permitted by Applicable Law. In all cases, legal consideration shall be required for each issuance of Restricted Stock to the extent required by Applicable Law.

7.2 Rights as Stockholders . Subject to Section 7.4 hereof, upon issuance of Restricted Stock, the Holder shall have, unless otherwise provided by the Administrator, all the rights of a stockholder with respect to said shares, subject to the restrictions in the applicable Program or in each individual Award Agreement, including the right to receive all dividends and other distributions paid or made with respect to the shares; provided , however , that, in the sole discretion of the Administrator, any extraordinary distributions with respect to the Shares shall be subject to the restrictions set forth in Section 7.3 hereof.

7.3 Restrictions . All shares of Restricted Stock (including any shares received by Holders thereof with respect to shares of Restricted Stock as a result of stock dividends, stock splits or any other form of recapitalization) shall, in the terms of the applicable Program or in each individual Award Agreement, be subject to such restrictions and vesting requirements as the Administrator shall provide. Such restrictions may include, without limitation, restrictions concerning voting rights and transferability and such restrictions may lapse separately or in combination at such times and pursuant to such circumstances or based on such criteria as selected by the Administrator, including, without limitation, criteria based on the Holder's duration of employment with the Company, Company or Affiliate performance, individual performance or other criteria selected by the Administrator. By action taken after the Restricted Stock is issued,

the Administrator may, on such terms and conditions as it may determine to be appropriate, accelerate the vesting of such Restricted Stock by removing any or all of the restrictio ns imposed by the terms of the Program and/or the Award Agreement. Restricted Stock may not be sold or encumbered until all restrictions are terminated or expire.

7.4 Repurchase or Forfeiture of Restricted Stock . Except as otherwise determined by the Administrator at the time of the grant of the Award or thereafter, if no price was paid by the Holder for the Restricted Stock, upon a Termination of Service during the applicable restriction period, the Holder's rights in unvested Restricted Stock then subject to restrictions shall lapse, and such Restricted Stock shall be surrendered to the Company and cancelled without consideration. If a price was paid by the Holder for the Restricted Stock, upon a Termination of Service during the applicable restriction period, the Company shall have the right to repurchase from the Holder the unvested Restricted Stock then subject to restrictions at a cash price per share equal to the price paid by the Holder for such Restricted Stock or such other amount as may be specified in the Program or the Award Agreement. Notwithstanding the foregoing, the Administrator in its sole discretion may provide that in the event of certain events, including a Change in Control, the Holder's death, retirement or disability or any other spec ified Termination of Service or any other event, the Holder's rights in unvested Restricted Stock shall not lapse, such Restricted Stock shall vest and, if applicable, the Company shall not have a right of repurchase.

7.5 Certificates for Restricted Stock . Restricted Stock granted pursuant to the Plan may be evidenced in such manner as the Administrator shall determine. Certificates or book entries evidencing shares of Restricted Stock must include an appropriate legend referring to the terms, conditions, and restrictions applicable to such Restricted Stock. The Company may, in its sole discretion, (a) retain physical possession of any stock certificate evidencing shares of Restricted Stock until the restrictions thereon shall have lapsed and/or (b) require that the stock certificates evidencing shares of Restricted Stock be held in custody by a designated escrow agent (which may but need not be the Company) until the restrictions thereon shall have lapsed, and that the Holder deliver a stock power, endorsed in blank, relating to such Restricted Stock.

7.6 Section 83(b) Election . If a Holder makes an election under Section 83(b) of the Code to be taxed with respect to the Restricted Stock as of the date of transfer of the Restricted Stock rather than as of the date or dates upon which the Holder would otherwise be taxable under Section 83(a) of the Code, the Holder shall be required to deliver a copy of such election to the Company promptly after filing such election with the Internal Revenue Service.

ARTICLE 8.
AWARD OF RESTRICTED STOCK UNITS

8.1 Grant of Restricted Stock Units . Each of the Committee and the Board is authorized to grant Awards of Restricted Stock Units to any Eligible Participant selected by the Administrator in such amounts and subject to such terms and conditions as determined by the Administrator.

8.2 Term . Except as otherwise provided herein, the term of a Restricted Stock Unit award shall be set by the Administrator in its sole discretion.

8.3 Purchase Price . The Administrator shall specify the purchase pric e, if any, to be paid by the Holder to the Company with respect to any Restricted Stock Unit award; provided , however , that value of the consideration shall not be less than the par value of a Share, unless otherwise permitted by Applicable Law.

8.4 Vesting of Restricted Stock Units . At the time of grant, the Administrator shall specify the date or dates on which the Restricted Stock Units shall become fully vested and nonforfeitable, and may specify such conditions to vesting as it deems appropriate, including, without limitation, vesting based upon the Holder's duration of service to the Company or any Affiliate, Company performance, individual performance or other specific criteria, in each case on a specified date or dates or over any period or periods, as determined by the Administrator.

8.5 Maturity and Payment . At the time of grant, the Administrator shall specify the maturity date applicable to each grant of Restricted Stock Units which shall be no earlier than the vesting date or dates of the Award and may be determined at the election of the Holder (if permitted by the applicable Award Agreement); provided that, except as otherwise determined by the Administrator, set forth in any applicable Award Agreement, and subject to compliance with Section 409A of the Code, in no event shall the maturity date relating to each Restricted Stock Unit occur following the later of (a) the fifteenth (15 th) day of the third (3 rd) month following the end of calendar year in which the Restricted Stock Unit vests; or (b) the fifteenth (15 th) day of the third (3 rd) month following the end of the Company's fiscal year in which the Restricted Stock Unit vests. On the maturity date, the Company shall, subject to Section 11.4(e) hereof, transfer to the Holder one unrestricted, fully transferable Share for each Restricted Stock Unit scheduled to be paid out on such date and not previously forfeited, or, in the sole discretion of the Administrator, an amount in cash equal to the Fair Market Value of such shares on the maturity date or a combination of cash and Common Stock as determined by the Administrator.

8.6 Payment upon Termination of Service . An Award of Restricted Stock Units shall only be payable while the Holder is an Employee; provided , however , that the Administrator, in its sole and absolute discretion may provide (in an Award Agreement or otherwise) that a Restricted Stock Unit award may be paid subsequent to a Termination of Service in certain events, including a Change in Control, the Holder's death, retirement or disability or any other specified Termination of Service.

8.7 No Rights as a Stockholder . Unless otherwise determined by the Administrator, a Holder who is awarded Restricted Stock Units shall possess no incidents of ownership with respect to the Shares represented by such Restricted Stock Units, unless and until the same are transferred to the Holder pursuant to the terms of this Plan and the Award Agreement.

8.8 Dividend Equivalents . Subject to Section 9.2 hereof, the Administrator may, in its sole discretion, provide that Dividend Equivalents shall be earned by a Holder of Restricted Stock Units based on dividends declared on the Common Stock, to be credited as of dividend payment dates during the period between the date an Award of Restricted Stock Units is granted to a Holder and the maturity date of such Award.

ARTICLE 9.

AWARD OF PERFORMANCE AWARDS, DIVIDEND EQUIVALENTS, STOCK PAYMENTS, DEFERRED STOCK, DEFERRED STOCK UNITS

9.1 Performance Awards .

(a) Each of the Board and the Committee is authorized to grant Performance Awards, including Awards of Performance Stock Units, to any Eligible Participant. The value of Performance Awards, including Performance Stock Units, may be linked to any one or more performance criteria or other specific criteria determined by the Administrator, in each case on a specified date or dates or over any period or periods determined by the Administrator. Performance Awards, including Performance Stock Unit awards may be paid in cash, Shares, or a combination of cash and Shares, as determined by the Administrator.

(b) Without limiting Section 9.1(a) hereof, each of the Board and the Committee may grant Performance Awards to any Eligible Participant in the form of a cash bonus payable upon the attainment of objective performance criteria or such other criteria, whether or not objective, which are established by the Administrator, in each case on a specified date or dates or over any period or periods determined by the Administrator.

9.2 Dividend Equivalents .

(a) Dividend Equivalents may be granted by each of the Board and the Committee based on dividends declared on the Common Stock, to be credited as of dividend payment dates during the period between the date an Award is granted to a Holder and the date such Award vests, is exercised, is distributed or expires, as determined by the Administrator. Such Dividend Equivalents shall be converted to cash or additional shares of Common Stock by such formula and at such time and subject to such limitations as may be determined by the Administrator.

(b) Notwithstanding the foregoing, no Dividend Equivalents shall be payable with respect to Options or Stock Appreciation Rights.

9.3 Stock Payments . Each of the Board and the Committee is authorized to make Stock Payments to any Eligible Participant. The number or value of Shares of any Stock Payment shall be determined by the Administrator and may be based upon performance criteria or any other specific criteria, including service to the Company or any Affiliate, determined by the Administrator. Shares underlying a Stock Payment which is subject to a vesting schedule or other conditions or criteria set by the Administrator will not be issued until those conditions have been satisfied. Unless otherwise provided by the Administrator, a Holder of a Stock Payment shall have no rights as a Company stockholder with respect to such Stock Payment until such time as the Stock Payment has vested and the Shares underlying the Award have been issued to the Holder. Stock Payments may, but are not required to, be made in lieu of base salary, bonus, fees or other cash compensation otherwise payable to such Eligible Individual.

9.4 Deferred Stock . Each of the Board and the Committee is authorized to grant Deferred Stock to any Eligible Participant. The number of shares of Deferred Stock shall be

determined by the Administrator and may (but is not required to) be based on performance criteria or other specific criteria, including service to the Company or any Affiliate, as the Administrator determin es, in each case on a specified date or dates or over any period or periods determined by the Administrator. Shares underlying a Deferred Stock award which is subject to a vesting schedule or other conditions or criteria set by the Administrator will be i ssued on the vesting date(s) or date(s) that those conditions and criteria have been satisfied, as applicable. Unless otherwise provided by the Administrator, a Holder of Deferred Stock shall have no rights as a Company stockholder with respect to such De ferred Stock until such time as the Award has vested and any other applicable conditions and/or criteria have been satisfied and the Shares underlying the Award have been issued to the Holder.

9.5 Deferred Stock Units . Each of the Board and the Committee is authorized to grant Deferred Stock Units to any Eligible Participant. The number of Deferred Stock Units shall be determined by the Administrator and may (but is not required to) be based on performance criteria or other specific criteria, including service to the Company or any Affiliate, as the Administrator determines, in each case on a specified date or dates or over any period or periods determined by the Administrator. Each Deferred Stock Unit shall entitle the Holder thereof to receive one share of Common Stock on the date the Deferred Stock Unit becomes vested or upon a specified settlement date thereafter (which settlement date may (but is not required to) be the date of the Holder's Termination of Service). Shares underlying a Deferred Stock Unit award which is subject to a vesting schedule or other conditions or criteria set by the Administrator will not be issued until on or following the date that those conditions and criteria have been satisfied. Unless otherwise provided by the Administrator, a Holder of Deferred Stock Units shall have no rights as a Company stockholder with respect to such Deferred Stock Units until such time as the Award has vested and any other applicable conditions and/or criteria have been satisfied and the Shares underlying the Award have been issued to the Holder.

9.6 Term . The term of a Performance Award, Dividend Equivalent award, Stock Payment award, Deferred Stock award and/or Deferred Stock Unit award shall be set by the Administrator in its sole discretion.

9.7 Purchase Price . The Administrator may establish the purchase price of a Performance Award, shares distributed as a Stock Payment award, shares of Deferred Stock or shares distributed pursuant to a Deferred Stock Unit award; provided , however , that value of the consideration shall not be less than the par value of a Share, unless otherwise permitted by Applicable Law.

9.8 Termination of Service . A Performance Award, Stock Payment award, Dividend Equivalent award, Deferred Stock award and/or Deferred Stock Unit award is distributable only while the Holder is an Employee. The Administrator, however, in its sole discretion may provide that the Performance Award, Dividend Equivalent award, Stock Payment award, Deferred Stock award and/or Deferred Stock Unit award may be distributed subsequent to a Termination of Service in certain events, including a Change in Control, the Holder's death, retirement or disability or any other specified Termination of Service.

ARTICLE 10.

AWARD OF STOCK APPRECIATION RIGHTS

10.1 Grant of Stock Appreciation Rights .

(a) Each of the Board and the Committee is authorized to grant Stock Appreciation Rights to Eligible Participants from time to time, in its sole discretion, on such terms and conditions as it may determine consistent with the Plan.

(b) A Stock Appreciation Right shall entitle the Holder (or other person entitled to exercise the Stock Appreciation Right pursuant to the Plan) to exercise all or a specified portion of the Stock Appreciation Right (to the extent then exercisable pursuant to its terms) and to receive from the Company an amount determined by multiplying the difference obtained by subtracting the exercise price per Share of the Stock Appreciation Right from the Fair Market Value on the date of exercise of the Stock Appreciation Right by the number of Shares with respect to which the Stock Appreciation Right shall have been exercised, subject to any limitations the Administrator may impose. Except as described in (c) below or in Section 13.2 hereof, the exercise price per Share subject to each Stock Appreciation Right shall be set by the Administrator, but shall not be less than one hundred percent (100%) of the Fair Market Value on the date the Stock Appreciation Right is granted.

(c) Notwithstanding the foregoing provisions of Section 10.1(b) hereof to the contrary, in the case of an Stock Appreciation Right that is a Substitute Award, the price per Share of the Shares subject to such Stock Appreciation Right may be less than one hundred percent (100%) of the Fair Market Value per share on the date of grant; provided that the excess of: (i) the aggregate Fair Market Value (as of the date such Substitute Award is granted) of the shares subject to the Substitute Award, over (ii) the aggregate exercise price thereof does not exceed the excess of: (x) the aggregate fair market value (as of the time immediately preceding the transaction giving rise to the Substitute Award, such fair market value to be determined by the Administrator) of the shares of the predecessor entity that were subject to the grant assumed or substituted for by the Company, over (y) the aggregate exercise price of such shares.

10.2 Stock Appreciation Right Vesting .

(a) The period during which the right to exercise, in whole or in part, a Stock Appreciation Right vests in the Holder shall be set by the Administrator and the Administrator may determine that a Stock Appreciation Right may not be exercised in whole or in part for a specified period after it is granted. Such vesting may be based on service with the Company or any Affiliate, any performance criteria or any other criteria selected by the Administrator. At any time after grant of a Stock Appreciation Right, the Administrator may, in its sole discretion and subject to whatever terms and conditions it selects, accelerate the period during which a Stock Appreciation Right vests.

(b) No portion of a Stock Appreciation Right which is unexercisable at Termination of Service shall thereafter become exercisable, except as may be otherwise provided by the Administrator either in the applicable Program or Award Agreement or by action of the Administrator following the grant of the Stock Appreciation Right, including following a

Termination of Service; provided, that in no event shall a Stock Appreciation Right become exercisable following its expiration, termination or forfeiture.

10.3 Manner of Exercise . All or a portion of an exercisable Stock Appreciation Right shall be deemed exercised upon delivery of all of the following to the stock administrator of the Company, or such other person or entity designated by the Administrator, or his, her or its office, as applicable:

(a) A written or electronic notice complying with the applicable rules established by the Administrator stating that the Stock Appreciation Right, or a portion thereof, is exercised. The notice shall be signed by the Holder or other person then entitled to exercise the Stock Appreciation Right or such portion of the Stock Appreciation Right;

(b) Such representations and documents as the Administrator, in its sole discretion, deems necessary or advisable to effect compliance with all applicable provisions of the Securities Act and any other federal, state or foreign securities laws or regulations. The Administrator may, in its sole discretion, also take whatever additional actions it deems appropriate to effect such compliance; and

(c) In the event that the Stock Appreciation Right shall be exercised pursuant to this Section 10.3 hereof by any person or persons other than the Holder, appropriate proof of the right of such person or persons to exercise the Stock Appreciation Right.

10.4 Stock Appreciation Right Term . The term of each Stock Appreciation Right (the " Stock Appreciation Right Term ") shall be set by the Administrator in its sole discretion; provided , however , that the term shall not be more than ten (10) years from the date the Stock Appreciation Right is granted. The Administrator shall determine the time period, including the time period following a Termination of Service, during which the Holder has the right to exercise the vested Stock Appreciation Rights, which time period may not extend beyond the expiration date of the Stock Appreciation Right Term. Except as limited by the requirements of Section 409A of the Code and regulations and rulings thereunder, the Administrator may extend the Stock Appreciation Right Term of any outstanding Stock Appreciation Right, may extend the time period during which vested Stock Appreciation Rights may be exercised following any Termination of Service of the Holder, and may amend any other term or condition of such Stock Appreciation Right relating to such a Termination of Service.

10.5 Payment . Payment of the amounts payable with respect to Stock Appreciation Rights pursuant to this Article 10 shall be in cash, Shares (based on its Fair Market Value as of the date the Stock Appreciation Right is exercised), or a combination of both, as determined by the Administrator.

ARTICLE 11.

ADDITIONAL TERMS OF AWARDS

11.1 Payment . The Administrator shall determine the methods by which payments by any Holder with respect to any Awards granted under the Plan shall be made, including, without limitation: (a) cash or check, (b) Shares (including, in the case of payment of the exercise price of

an Award, Shares issuable pursuant to the exercise of the Award) or Shares held for such period of time as may be required by the Administrator in order to avoid adverse accounting consequences, in each case, having a Fair Market Value on the da te of delivery equal to the aggregate payments required, (c) delivery of a written or electronic notice that the Holder has placed a market sell order with a broker with respect to Shares then issuable upon exercise or vesting of an Award, and that the bro ker has been directed to pay a sufficient portion of the net proceeds of the sale to the Company in satisfaction of the aggregate payments required; provided that payment of such proceeds is then made to the Company upon settlement of such sale, or (d) oth er form of legal consideration acceptable to the Administrator. The Administrator shall also determine the methods by which Shares shall be delivered or deemed to be delivered to Holders. Notwithstanding any other provision of the Plan to the contrary, n o Holder who is a Director or an "executive officer" of the Company within the meaning of Section 13(k) of the Exchange Act shall be permitted to make payment with respect to any Awards granted under the Plan, or continue any extension of credit with respe ct to such payment, with a loan from the Company or a loan arranged by the Company in violation of Section 13(k) of the Exchange Act.

11.2 Tax Withholding . The Company or any Affiliate shall have the authority and the right to deduct or withhold, or require a Holder to remit to the Company, an amount sufficient to satisfy federal, state, local and foreign taxes (including the Holder's FICA or employment tax obligation) required by law to be withheld with respect to any taxable event concerning a Holder arising as a result of the Plan. The Administrator may in its sole discretion and in satisfaction of the foregoing requirement allow a Holder to satisfy such obligations by any payment means described in Section 11.1 hereof, including without limitation, by allowing such Holder to elect to have the Company withhold Shares otherwise issuable under an Award (or allow the surrender of Shares). The number of Shares which may be so withheld or surrendered shall be limited to the number of Shares which have a Fair Market Value on the date of withholding or repurchase equal to the aggregate amount of such liabilities based on the minimum statutory withholding rates for federal, state, local and foreign income tax and payroll tax purposes that are applicable to such supplemental taxable income. The Administrator shall determine the fair market value of the Shares, consistent with applicable provisions of the Code, for tax withholding obligations due in connection with a broker-assisted cashless Option or Stock Appreciation Right exercise involving the sale of Shares to pay the Option or Stock Appreciation Right exercise price or any tax withholding obligation.

11.3 Transferability of Awards .

(a) Except as otherwise provided in Section 11.3(b) hereof:

(i) No Award under the Plan may be sold, pledged, assigned or transferred in any manner other than by will or the laws of descent and distribution or, subject to the consent of the Administrator, pursuant to a DRO, unless and until such Award has been exercised, or the Shares underlying such Award have been issued, and all restrictions applicable to such Shares have lapsed;

(ii) No Award or interest or right therein shall be liable for the debts, contracts or engagements of the Holder or his successors in interest or shall be subject to disposition by transfer, alienation, anticipation, pledge, hypothecation, encumbrance, assignment

or any other means whether such disposition be voluntary or involuntary or by operation of law by judgment, levy, attachment, garnishment or any other legal or equitab le proceedings (including bankruptcy) unless and until such Award has been exercised, or the Shares underlying such Award have been issued, and all restrictions applicable to such Shares have lapsed, and any attempted disposition of an Award prior to the s atisfaction of these conditions shall be null and void and of no effect, except to the extent that such disposition is permitted by clause (i) of this provision; and

(iii) During the lifetime of the Holder, only the Holder may exercise an Award (or any portion thereof) granted to him under the Plan, unless it has been disposed of pursuant to a DRO; after the death of the Holder, any exercisable portion of an Award may, prior to the time when such portion becomes unexercisable under the Plan or the applicable Program or Award Agreement, be exercised by his personal representative or by any person empowered to do so under the deceased Holder's will or under the then applicable laws of descent and distribution.

(b) Notwithstanding Section 11.3(a) hereof, the Administrator, in its sole discretion, may determine to permit a Holder or a Permitted Transferee of such Holder to transfer an Award to any one or more Permitted Transferees, subject to the following terms and conditions: (i) an Award transferred to a Permitted Transferee shall not be assignable or transferable by the Permitted Transferee (other than to another Permitted Transferee of the applicable Holder) other than by will or the laws of descent and distribution; (ii) an Award transferred to a Permitted Transferee shall continue to be subject to all the terms and conditions of the Award as applicable to the original Holder (other than the ability to further transfer the Award); and (iii) the Holder (or transferring Permitted Transferee) and the Permitted Transferee shall execute any and all documents requested by the Administrator, including, without limitation documents to (A) confirm the status of the transferee as a Permitted Transferee, (B) satisfy any requirements for an exemption for the transfer under applicable federal, state and foreign securities laws and (C) evidence the transfer.

(c) Notwithstanding Section 11.3(a) hereof, a Holder may, in the manner determined by the Administrator, designate a beneficiary to exercise the rights of the Holder and to receive any distribution with respect to any Award upon the Holder's death. A beneficiary, legal guardian, legal representative, or other person claiming any rights pursuant to the Plan is subject to all terms and conditions of the Plan and any Program or Award Agreement applicable to the Holder, except to the extent the Plan, the Program and the Award Agreement otherwise provide, and to any additional restrictions deemed necessary or appropriate by the Administrator. If the Holder is married or a domestic partner in a domestic partnership qualified under Applicable Law and resides in a community property state, a designation of a person other than the Holder's spouse or domestic partner, as applicable, as his or her beneficiary with respect to more than fifty percent (50%) of the Holder's interest in the Award shall not be effective without the prior written or electronic consent of the Holder's spouse or domestic partner, as applicable. If no beneficiary has been designated or survives the Holder, payment shall be made to the person entitled thereto pursuant to the Holder's will or the laws of descent and distribution. Subject to the foregoing, a beneficiary designation may be changed or revoked by a Holder at any time; provided that the change or revocation is filed with the Administrator prior to the Holder's death.

11.4 Conditions to Issuance of Shares .

(a) Notwithstanding anything herein to the contrary, the Company shall not be required to issue or deliver any certificates or make any book entries evidencing Shares pursuant to the exercise of any Award, unless and until the Board or the Committee has determined, with advice of counsel, that the issuance of such shares is in compliance with all Applicable Laws, and the Shares are covered by an effective registration statement or applicable exemption from registration. In addition to the terms and conditions provided herein, the Board or the Committee may require that a Holder make such reasonable covenants, agreements, and representations as the Board or the Committee, in its discretion, deems advisable in order to comply with any such laws, regulations, or requirements.

(b) All Share certificates delivered pursuant to the Plan and all Shares issued pursuant to book entry procedures are subject to any stop-transfer orders and other restrictions as the Administrator deems necessary or advisable to comply with Applicable Law. The Administrator may place legends on any Share certificate or book entry to reference restrictions applicable to the Shares.

(c) The Administrator shall have the right to require any Holder to comply with any timing or other restrictions with respect to the settlement, distribution or exercise of any Award, including a window-period limitation, as may be imposed in the sole discretion of the Administrator.

(d) No fractional Shares shall be issued and the Administrator shall determine, in its sole discretion, whether cash shall be given in lieu of fractional Shares or whether such fractional Shares shall be eliminated by rounding down.

(e) Notwithstanding any other provision of the Plan, unless otherwise determined by the Administrator or required by any Applicable Law, the Company shall not deliver to any Holder certificates evidencing Shares issued in connection with any Award and instead such Shares shall be recorded in the books of the Company (or, as applicable, its transfer agent or stock plan administrator).

11.5 Forfeiture and Claw-Back Provisions . Pursuant to its general authority to determine the terms and conditions applicable to Awards under the Plan, the Administrator shall have the right to provide, in an Award Agreement or otherwise, or to require a Holder to agree by separate written or electronic instrument, that:

(a) (i) Any proceeds, gains or other economic benefit actually or constructively received by the Holder upon any receipt or exercise of the Award, or upon the receipt or resale of any Shares underlying the Award, must be paid to the Company, and (ii) the Award shall terminate and any unexercised portion of the Award (whether or not vested) shall be forfeited, if (x) a Termination of Service occurs prior to a specified date, or within a specified time period following receipt or exercise of the Award, or (y) the Holder at any time, or during a specified time period, engages in any activity in competition with the Company, or which is inimical, contrary or harmful to the interests of the Company, as further defined by the Administrator or (z) the Holder incurs a Termination of Service for “cause” (as such term is defined in the sole discretion of the

Ad ministrator, or as set forth in a written agreement relating to such Award between the Company and the Holder); and

(b) All Awards (including any proceeds, gains or other economic benefit actually or constructively received by the Holder upon any receipt or exercise of any Award or upon the receipt or resale of any Shares underlying the Award) shall be subject to the provisions of any claw-back policy implemented by the Company, including, without limitation, any claw-back policy adopted to comply with the requirements of Applicable Law, including, without limitation, the Dodd-Frank Wall Street Reform and Consumer Protection Act and any rules or regulations promulgated thereunder, to the extent set forth in such claw-back policy and/or in the applicable Award Agreement.

11.6 Prohibition on Repricing . Subject to Section 13.2 hereof, the Administrator shall not, without the approval of the stockholders of the Company, (i) authorize the amendment of any outstanding Option or Stock Appreciation Right to reduce its price per Share, or (ii) cancel any Option or Stock Appreciation Right in exchange for cash or another Award when the Option or Stock Appreciation Right price per Share exceeds the Fair Market Value of the underlying Shares. Subject to Section 13.2 hereof, the Administrator shall have the authority, without the approval of the stockholders of the Company, to amend any outstanding Award to increase the price per Share or to cancel and replace an Award with the grant of an Award having a price per Share that is greater than or equal to the price per Share of the original Award.

11.7 Leave of Absence . Unless the Administrator provides otherwise, vesting of Awards granted hereunder shall be suspended during any unpaid leave of absence. A Holder shall not cease to be considered an Employee in the case of any (a) leave of absence approved by the Company or (b) transfer between locations of the Company or between the Company and any of its Affiliates or any successor thereof.

ARTICLE 12.

ADMINISTRATION

12.1 Administrator . The Committee and the Board shall administer the Plan (except as otherwise permitted herein). Any action taken by the Board in connection with the administration of the Plan shall not be deemed approved by the Board unless such actions are approved by a majority of the Non-Employee Directors. Except as may otherwise be provided in any charter of the Committee or the Board, appointment of Committee and Board members shall be effective upon acceptance of appointment. Committee and Board members may resign at any time by delivering written or electronic notice to the Board. Vacancies in the Committee and the Board may only be filled by the Board.

12.2 Duties and Powers of Administrator . It shall be the duty of the Administrator to conduct the general administration of the Plan in accordance with its provisions. The Administrator shall have the power to interpret the Plan, the Program and the Award Agreement, and to adopt such rules for the administration, interpretation and application of the Plan as are not inconsistent therewith, to interpret, amend or revoke any such rules and to amend any Program or Award Agreement; provided that the rights or obligations of the Holder of the Award that is the

subject of any such Program or Award Agreement are not affected materially and adversely by such amendment, unless the consent of the Holder is obtained or such amendment is otherwise permitted under Section 13.10 hereof. Any such grant or aw ard under the Plan need not be the same with respect to each Holder. In its sole discretion, the Board may at any time and from time to time exercise any and all rights and duties of the Committee under the Plan except as described in Section 12.1 above a nd with respect to matters which under Rule 16b -3 under the Exchange Act or any successor rule, or the rules of any securities exchange or automated quotation system on which the Shares are listed, quoted or traded are required to be determined in the sole discretion of the Committee.

12.3 Action by the Committee . Unless otherwise established by the Board or in any charter of the Committee, a majority of the Committee shall constitute a quorum and the acts of a majority of the members present at any meeting at which a quorum is present, and acts approved in writing by all members of the Committee in lieu of a meeting, shall be deemed the acts of the Committee. Each member of the Committee is entitled to, in good faith, rely or act upon any report or other information furnished to that member by any officer or other employee of the Company or any Affiliate, the Company's independent certified public accountants, or any executive compensation consultant or other professional retained by the Company to assist in the administration of the Plan.

12.4 Authority of Administrator . Subject to the Company's Bylaws, the Committee's Charter and any specific designation in the Plan, the Administrator has the exclusive power, authority and sole discretion to:

(a) Adopt procedures from time to time in the Administrator's discretion to ensure that an Employee is eligible to participate in the Plan prior to the granting of any Awards to such Employee under the Plan (including, without limitation, a requirement, if any, that each such Employee certify to the Company prior to the receipt of an Award under the Plan that he or she has not been previously employed by the Company or a Subsidiary, or if previously employed, has had a bona fide period of non-employment, and that the grant of Awards under the Plan is an inducement material to his or her agreement to enter into employment with the Company or a Subsidiary);

(b) Designate Eligible Participants to receive Awards;

(c) Determine the type or types of Awards to be granted to each Eligible Participant;

(d) Determine the number of Awards to be granted and the number of Shares to which an Award will relate;

(e) Determine the terms and conditions of any Award granted pursuant to the Plan, including, but not limited to, the exercise price, grant price, or purchase price, any performance criteria, any restrictions or limitations on the Award, any schedule for vesting, lapse of forfeiture restrictions or restrictions on the exercisability of an Award, and accelerations or waivers thereof, and any provisions related to non-competition and recapture of gain on an Award, based in each case on such considerations as the Administrator in its sole discretion determines;

(f) Determine whether, to what extent, and pursuant to what circumstances an Award may be settled in, o r the exercise price of an Award may be paid in cash, Shares, other Awards, or other property, or an Award may be canceled, forfeited, or surrendered;

(g) Prescribe the form of each Award Agreement, which need not be identical for each Holder;

(h) Decide all other matters that must be determined in connection with an Award;

(i) Establish, adopt, or revise any rules and regulations as it may deem necessary or advisable to administer the Plan;

(j) Interpret the terms of, and any matter arising pursuant to, the Plan, any Program or any Award Agreement;

(k) Make all other decisions and determinations that may be required pursuant to the Plan or as the Administrator deems necessary or advisable to administer the Plan; and

(l) Accelerate wholly or partially the vesting or lapse of restrictions of any Award or portion thereof at any time after the grant of an Award, subject to whatever terms and conditions it selects and Sections 3.4 and 13.2(d) hereof.

12.5 Decisions Binding . The Administrator's interpretation of the Plan, any Awards granted pursuant to the Plan, any Program, any Award Agreement and all decisions and determinations by the Administrator with respect to the Plan are final, binding, and conclusive on all parties.

12.6 Delegation of Authority . To the extent permitted by Applicable Law, the Board or Committee may from time to time delegate to a committee of one or more Non-Employee Directors or officers of the Company the authority to amend Awards or to take other administrative actions pursuant to Article 12. Notwithstanding the foregoing, only the Committee and the Board, acting in accordance with this Article 12, may grant Awards hereunder. Any delegation hereunder shall be subject to the restrictions and limits that the Board or Committee specifies at the time of such delegation, and the Board may at any time rescind the authority so delegated or appoint a new delegatee. At all times, the delegatee appointed under this Section 12.6 shall serve in such capacity at the pleasure of the Board and the Committee.

ARTICLE 13.

MISCELLANEOUS PROVISIONS

13.1 Amendment, Suspension or Termination of the Plan . Except as otherwise provided in this Section 13.1, the Plan may be wholly or partially amended or otherwise modified, suspended or terminated at any time or from time to time by the Board or the Committee. However, without approval of the Company's stockholders given within twelve (12) months before or after the action by the Administrator, no action of the Administrator may, except as provided in Section 13.2 hereof, (a) reduce the price per share of any outstanding Option or Stock

Appreciation Right granted under the Plan, or (b) cancel any Option or Stock Appreciation Right in exchange for cash or another Award when the Option or Stock Appreciation Right price per share exceeds the Fair Market Value of the underlying Shares. Except as provided in Section 14.10 hereof, no amendment, suspension or termination of the Plan shall, without the consent of the Holder, materially and adversely affect any rights or obligations under any Award theretofore grant ed or awarded, unless the Award itself otherwise expressly so provides.

13.2 Changes in Common Stock or Assets of the Company, Acquisition or Liquidation of the Company and Other Corporate Events .

(a) In the event of any stock dividend, stock split, combination or exchange of shares, merger, consolidation or other distribution (other than normal cash dividends) of Company assets to stockholders, or any other change affecting the shares of the Company's stock or the share price of the Company's stock other than an Equity Restructuring, the Administrator may make equitable adjustments, if any, to reflect such change with respect to (i) the aggregate number and kind of shares that may be issued under the Plan (including, but not limited to, adjustments of the limitations in Section 3.1 hereof on the maximum number and kind of shares which may be issued under the Plan); (ii) the number and kind of shares of Common Stock (or other securities or property) subject to outstanding Awards; (iii) the terms and conditions of any outstanding Awards (including, without limitation, any applicable performance targets or criteria with respect thereto); and (iv) the grant or exercise price per share for any outstanding Awards under the Plan.

(b) In the event of any transaction or event described in Section 13.2(a) hereof or any unusual or nonrecurring transactions or events affecting the Company, any Affiliate of the Company, or the financial statements of the Company or any Affiliate, or of changes in Applicable Law, the Administrator, in its sole discretion, and on such terms and conditions as it deems appropriate, either by the terms of the Award or by action taken prior to the occurrence of such transaction or event and either automatically or upon the Holder's request, is hereby authorized to take any one or more of the following actions whenever the Administrator determines that such action is appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan or with respect to any Award under the Plan, to facilitate such transactions or events or to give effect to such changes in laws, regulations or principles:

(i) To provide for either (A) termination of any such Award in exchange for an amount of cash and/or other property, if any, equal to the amount that would have been attained upon the exercise of such Award or realization of the Holder's rights (and, for the avoidance of doubt, if as of the date of the occurrence of the transaction or event described in this Section 13.2 the Administrator determines in good faith that no amount would have been attained upon the exercise of such Award or realization of the Holder's rights, then such Award may be terminated by the Company without payment) or (B) the replacement of such Award with other rights or property selected by the Administrator in its sole discretion having an aggregate value not exceeding the amount that could have been attained upon the exercise of such Award or realization of the Holder's rights had such Award been currently exercisable or payable or fully vested;

(ii) To provide that such Award be assumed by the successor or survivor corporation, or a parent or subsidiary thereof, or shall be substituted for by similar options, rights or awards covering the st ock of the successor or survivor corporation, or a parent or subsidiary thereof, with appropriate adjustments as to the number and kind of shares and prices;

(iii) To make adjustments in the number and type of shares of the Company's stock (or other securities or property) subject to outstanding Awards, and in the number and kind of outstanding Restricted Stock or Deferred Stock and/or in the terms and conditions of (including the grant or exercise price), and the criteria included in, outstanding Awards and Awards which may be granted in the future;

(iv) To provide that such Award shall be exercisable or payable or fully vested with respect to all shares covered thereby, notwithstanding anything to the contrary in the Plan or the applicable Program or Award Agreement; and

(v) To provide that the Award cannot vest, be exercised or become payable after such event.

(c) In connection with the occurrence of any Equity Restructuring, and notwithstanding anything to the contrary in Sections 13.2(a) and 13.2(b) hereof:

(i) The number and type of securities subject to each outstanding Award and the exercise price or grant price thereof, if applicable, shall be equitably adjusted; and/or

(ii) The Administrator shall make such equitable adjustments, if any, as the Administrator in its discretion may deem appropriate to reflect such Equity Restructuring with respect to the aggregate number and kind of shares that may be issued under the Plan (including, but not limited to, adjustments of the limitations in Section 3.1 hereof on the maximum number and kind of shares which may be issued under the Plan). The adjustments provided under this Section 13.2(c) shall be nondiscretionary and shall be final and binding on the affected Holder and the Company.

The adjustments provided under this Section 13.2(c) shall be nondiscretionary and shall be final and binding on the affected Holder and the Company.

(d) Change in Control .

(i) Notwithstanding any other provision of the Plan , in the event of a Change in Control , each outstanding Award shall be assumed or an equivalent Award substituted by the successor corporation or a parent or subsidiary of the successor corporation, in each case, as determined by the Administrator.

(ii) In the event that the successor corporation in a Change in Control and its parents and subsidiaries refuse to assume or substitute for any Award in accordance with Section 13 .2(d)(i) hereof, each such non-assumed/substituted Award, except for any Performance Awards, shall become fully vested and, as applicable, exercisable and shall be deemed exercised, immediately prior to the consummation of such transaction, and all forfeiture restrictions on any

or all such Awards shall lapse at such time. For the avoidance of do ubt, the vesting of any Performance Awards not assumed in a Change in Control will not be automatically accelerated pursuant to this Section 13.2(d)(ii) and will instead vest pursuant to the terms and conditions of the applicable Award Agreement upon a Cha nge in Control where the successor corporation and its parents and subsidiaries refuse to assume or substitute for any Award in accordance with Section 13 .2(d)(i) hereof. If an Award vests and, as applicable, is exercised in lieu of assumption or substitu tion in connection with a Change in Control , the Administrator shall notify the Holder of such vesting and any applicable exercise period, and the Award shall terminate upon the Change in Control . For the avoidance of doubt, if the value of an Award that is terminated in connection with this Section 13 .2(d)(ii) is zero or negative at the time of such Change in Control , such Award shall be terminated upon the Change in Control without payment of consideration therefor.

(iii) Notwithstanding anything to the contrary, in the event that, within the twelve (12) month period immediately following a Change in Control, a Holder experiences a Termination of Service by the Company for other than Cause or by a Holder for Good Reason, then the vesting and, if applicable, exercisability of that number of Shares equal to one hundred percent (100%) of the then-unvested Shares subject to the outstanding Awards held by such Holder shall accelerate upon the date of such Termination of Service.

(e) The Administrator may, in its sole discretion, include such further provisions and limitations in any Award, agreement or certificate, as it may deem equitable and in the best interests of the Company that are not inconsistent with the provisions of the Plan.

(f) The existence of the Plan, the Program, the Award Agreement and the Awards granted hereunder shall not affect or restrict in any way the right or power of the Company or the stockholders of the Company to make or authorize any adjustment, recapitalization, reorganization or other change in the Company's capital structure or its business, any merger or consolidation of the Company, any issue of stock or of options, warrants or rights to purchase stock or of bonds, debentures, preferred or prior preference stocks whose rights are superior to or affect the Common Stock or the rights thereof or which are convertible into or exchangeable for Common Stock, or the dissolution or liquidation of the Company, or any sale or transfer of all or any part of its assets or business, or any other corporate act or proceeding, whether of a similar character or otherwise.

(g) In the event of any pending stock dividend, stock split, combination or exchange of shares, merger, consolidation or other distribution (other than normal cash dividends) of Company assets to stockholders, or any other change affecting the Shares or the share price of the Common Stock including any Equity Restructuring, for reasons of administrative convenience, the Company in its sole discretion may refuse to permit the exercise of any Award during a period of thirty (30) days prior to the consummation of any such transaction.

13.3 Stockholder Approval of the Plan not Required . It is expressly intended that approval of the Company's stockholders not be required as a condition of the effectiveness of the Plan, and the Plan's provisions shall be interpreted in a manner consistent with such intent for all purposes. Specifically, Nasdaq Stock Market Rule 5635(c) generally requires stockholder approval for stock option plans or other equity compensation arrangements adopted by companies whose securities are listed on the Nasdaq Stock Market pursuant to which stock awards or stock

may be acquired by officers, directors, employees, or consultants of such companies. Nasdaq Stock Market Rule 5635(c)(4) prov ides an exception to this requirement for issuances of securities to a person not previously an employee or director of the issuer, or following a bona fide period of non-employment, as an inducement material to the individual's entering into employment wi th the issuer; provided, such issuances are approved by either the issuer's compensation committee comprised of a majority of independent directors or a majority of the issuer's independent directors. Notwithstanding anything to the contrary herein, Award s under the Plan may only be made to Employees who have not previously been an Employee or Director of the Company or a Subsidiary, or following a bona fide period of non-employment by the Company or a Subsidiary, as an inducement material to the Employee' s entering into employment with the Company or a Subsidiary. Awards under the Plan will be approved by (i) the Company's Compensation Committee comprised of a majority of the Company's Non-Employee Directors or (ii) a majority of the Company's Non-Employe e Directors. Accordingly, pursuant to Nasdaq Stock Market Rule 5635(c)(4), the issuance of Awards and the Shares issuable upon exercise or vesting of such Awards pursuant to the Plan are not subject to the approval of the Company's stockholders.

13.4 No Stockholders Rights . Except as otherwise provided herein, a Holder shall have none of the rights of a stockholder with respect to Shares covered by any Award until the Holder becomes the record owner of such Shares.

13.5 Paperless Administration . In the event that the Company establishes, for itself or using the services of a third party, an automated system for the documentation, granting or exercise of Awards, such as a system using an internet website or interactive voice response, then the paperless documentation, granting or exercise of Awards by a Holder may be permitted through the use of such an automated system.

13.6 Effect of Plan upon Other Compensation Plans . The adoption of the Plan shall not affect any other compensation or incentive plans in effect for the Company or any Affiliate. Nothing in the Plan shall be construed to limit the right of the Company or any Affiliate: (a) to establish any other forms of incentives or compensation for Employees or other service providers of the Company or any Affiliate, or (b) to grant or assume options or other rights or awards otherwise than under the Plan in connection with any proper corporate purpose including without limitation, the grant or assumption of options in connection with the acquisition by purchase, lease, merger, consolidation or otherwise, of the business, stock or assets of any corporation, partnership, limited liability company, firm or association.

13.7 Compliance with Laws . The Plan, the granting and vesting of Awards under the Plan and the issuance and delivery of Shares and the payment of money under the Plan or under Awards granted or awarded hereunder are subject to compliance with all Applicable Law, and to such approvals by any listing, regulatory or governmental authority as may, in the opinion of counsel for the Company, be necessary or advisable in connection therewith. Any securities delivered under the Plan shall be subject to such restrictions, and the person acquiring such securities shall, if requested by the Company, provide such assurances and representations to the Company as the Company may deem necessary or desirable to assure compliance with all Applicable Law. To the extent permitted by Applicable Law, the Plan and Awards granted or awarded hereunder shall be deemed amended to the extent necessary to conform to such Applicable Law.

13.8 Titles and Headings, References to Sections of the Code or Exchange Act . The titles and headings of the Sections in the Plan are for convenience of reference only and, in the event of any conflict, the text of the Plan, rather than such titles or headings, shall control. References to sections of the Code or the Exchange Act shall include any amendment or successor thereto.

13.9 Governing Law . The Plan and any agreements hereunder shall be administered, interpreted and enforced under the internal laws of the State of Delaware without regard to conflicts of laws thereof or of any other jurisdiction.

13.10 Section 409A . To the extent that the Administrator determines that any Award granted under the Plan is subject to Section 409A of the Code, the Program pursuant to which such Award is granted and the Award Agreement evidencing such Award shall incorporate the terms and conditions required by Section 409A of the Code. To the extent applicable, the Plan, the Program and any Award Agreements shall be interpreted in accordance with Section 409A of the Code and Department of Treasury regulations and other interpretive guidance issued thereunder, including without limitation any such regulations or other guidance that may be issued after the Effective Date. Notwithstanding any provision of the Plan to the contrary, in the event that following the Effective Date the Administrator determines that any Award may be subject to Section 409A of the Code and related Department of Treasury guidance (including such Department of Treasury guidance as may be issued after the Effective Date), the Administrator may adopt such amendments to the Plan and the applicable Program and Award Agreement or adopt other policies and procedures (including amendments, policies and procedures with retroactive effect), or take any other actions, that the Administrator determines are necessary or appropriate to (a) exempt the Award from Section 409A of the Code and/or preserve the intended tax treatment of the benefits provided with respect to the Award, or (b) comply with the requirements of Section 409A of the Code and related Department of Treasury guidance and thereby avoid the application of any penalty taxes under such Section.

13.11 No Rights to Awards . No Eligible Participant or other person shall have any claim to be granted any Award pursuant to the Plan, and neither the Company nor the Administrator is obligated to treat Eligible Participants, Holders or any other persons uniformly.

13.12 Unfunded Status of Awards . The Plan is intended to be an "unfunded" plan for incentive compensation. With respect to any payments not yet made to a Holder pursuant to an Award, nothing contained in the Plan or any Program or Award Agreement shall give the Holder any rights that are greater than those of a general creditor of the Company or any Affiliate.

13.13 Indemnification. To the extent allowable pursuant to Applicable Law, each member of the Committee or of the Board and any officer or other employee to whom authority to administer any component of the Plan is delegated shall be indemnified and held harmless by the Company from any loss, cost, liability, or expense that may be imposed upon or reasonably incurred by such member in connection with or resulting from any claim, action, suit, or proceeding to which he or she may be a party or in which he or she may be involved by reason of any action or failure to act pursuant to the Plan and against and from any and all amounts paid by him or her in satisfaction of judgment in such action, suit, or proceeding against him or her; provided he or she gives the Company an opportunity, at its own expense, to handle and defend

the same before he or she undertakes to handle and defend it on his or her own behalf. The foregoing right o f indemnification shall not be exclusive of any other rights of indemnification to which such persons may be entitled pursuant to the Company's Certificate of Incorporation or Bylaws, as a matter of law, or otherwise, or any power that the Company may have to indemnify them or hold them harmless.

13.14 Relationship to other Benefits . No payment pursuant to the Plan shall be taken into account in determining any benefits under any pension, retirement, savings, profit sharing, group insurance, welfare or other benefit plan of the Company or any Affiliate except to the extent otherwise expressly provided in writing in such other plan or an agreement thereunder.

13.15 Expenses . The expenses of administering the Plan shall be borne by the Company and its Affiliates.

Exhibit 10.2

SECOND AMENDMENT TO LEASE
(One Tower Place)

THIS SECOND AMENDMENT TO LEASE (" **Second Amendment** ") is made and entered into as of the 20 th day of July, 2017, by and between AP3-SF2 CT SOUTH, LLC, a Delaware limited liability company (" **Landlord** ") and ACHAOGEN, INC., a Delaware corporation (" **Tenant** ").

R E C I T A L S :

A. Landlord and Tenant entered into that certain Lease dated as of August 12, 2016 (the " **Original Lease** "), as modified by that certain First Amendment to Lease dated as of April 7, 2017 by and between Landlord and Tenant (" **First Amendment** "), whereby Landlord leases to Tenant and Tenant leases from Landlord, certain space in the building (the " **Building** ") located at One Tower Place, South San Francisco, California 94080. The Original Lease, as modified by the First Amendment, may be referred to herein as the " **Lease** ."

B. By this Second Amendment, Landlord and Tenant desire to expand the Existing Premises (defined below) and to otherwise modify the Lease as provided herein.

C. Unless otherwise defined herein, capitalized terms as used herein shall have the same meanings as given thereto in the Lease.

NOW, THEREFORE, in consideration of the foregoing recitals and the mutual covenants contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

A G R E M E N T :

1. Existing Premises . Landlord and Tenant hereby agree that pursuant to the Lease, Landlord currently leases to Tenant and Tenant currently leases from Landlord that certain space in the Building containing approximately 47,118 rentable square feet square feet of space consisting of (i) 32,909 rentable square feet located on the third (3 rd) floor of the Building and commonly known as Suite 300, and (ii) approximately 14,209 rentable square feet located on the fourth (4 th) floor of the Building and commonly known as Suite 400 (the " **Existing Premises** "), all as more particularly described in the Lease.

2. Expansion of the Existing Premises; Expansion Commencement Date; Landlord's Delivery of Expansion Space.

2.1. Expansion Space . That certain space commonly known as Suite 450 and comprised of 18,888 rentable square feet located on the fourth (4 th) floor of the Building (the " **Suite 450 Expansion Space** "), and (ii) that certain space commonly known as Suite 500 and comprised of 32,978 rentable square feet located on the entirety of the fifth (5 th) floor of the Building (the " **Suite 500 Expansion Space** "), each as outlined on the floor plans attached hereto as Exhibit "A" and made a part hereof, may be collectively referred to herein as the " **Expansion Space** ." Effective

as of the date hereof, Sections 1.4 and 1.5 of the Original Lease are hereby deemed deleted in their entirety and are of no further force or effect.

2.2. Expansion Commencement Dates . Effective as of the earlier of (i) August 1, 2017 or (ii) the date Tenant commences business operations in all or any portion of the Suite 450 Expansion Space (" **Suite 450 Expansion Commencement Date** "), Tenant shall lease from Landlord and Landlord shall lease to Tenant, the Suite 450 Expansion Space. Effective as of the earlier of (i) June 1, 2018 or (ii) the date Tenant commences business operations in all or any portion of the Suite 500 Expansion Space (" **Suite 500 Expansion Commencement Date** "), Tenant shall lease from Landlord and Landlord shall lease to Tenant, the Suite 500 Expansion Space; provided, however, that in no event shall the Suite 500 Expansion Commencement Date be earlier than January 1, 2018. Accordingly, effective upon the Suite 450 Expansion Commencement Date, the Existing Premises shall be increased to include the Suite 450 Expansion Space and that upon the Suite 500 Expansion Commencement Date, the Existing Premises shall be increased to include the Suite 500 Expansion Space. Effective as of the applicable Expansion Commencement Date, all references to the " **Premises** " shall mean and refer to the Existing Premises as expanded by the applicable Expansion Space.

2.3. Landlord's Delivery of Expansion Space to Tenant . Landlord shall deliver the Expansion Space to Tenant on the date of the full execution and delivery of this Second Amendment by Landlord and Tenant (" **Delivery Date** ") in order for Tenant to commence the design and construction of the Tenant Improvements (as defined in the Work Letter) pursuant to the Tenant Work Letter attached hereto as Exhibit B (the " **Work Letter** ") and to install any of Tenant's furniture, fixtures and equipment. Such occupancy by Tenant during the period from the Delivery Date until the Suite 450 Expansion Commencement Date and the Suite 500 Expansion Commencement Date, as applicable, shall be subject to all of the terms and conditions of the Lease including, but not limited to, the provisions of Articles 8, 9 and 10 of the Original Lease (including Tenant's obligation to provide Landlord with evidence of insurance) except that Tenant will not be obligated to pay Base Rent nor Tenant's Share of Operating Expenses, Tax Expenses and Utilities Costs during such period of time until the occurrence of the actual Suite 450 Expansion Commencement Date and the Suite 500 Expansion Commencement Date with respect to the Suite 450 Expansion Space and the Suite 500 Expansion Space, respectively. Tenant acknowledges and agrees that Landlord will be constructing the Vertical Exhaust (as defined in the First Amendment) in the Building and that Tenant agrees to use commercially reasonable efforts to minimize interference with such Vertical Exhaust work in the Building. Landlord and Tenant agree to work in good faith to coordinate each party's respective work in the Building.

3. Existing Lease Term and Expansion Space Term . Landlord and Tenant acknowledge and agree that the Lease Commencement Date for the Existing Premises occurred on March 23, 2017, and that, as of the date hereof, the current Lease Expiration Date is September 30, 2027. The Term of Tenant's lease of the Suite 450 Expansion Space and the Term of Tenant's lease of the Suite 500 Expansion Space shall commence on the Suite 450 Expansion Commencement Date and Suite 500 Expansion Commencement Date, respectively, and shall expire on January 31, 2028 (" **New Expiration Date** "), subject to Tenant's extension rights in the Lease. The Term of Tenant's Lease of the Existing Premises shall be extended until the January 31, 2028 New Expiration Date, which shall be the Lease Expiration Date for all purposes under the Lease. Landlord may deliver to Tenant a confirmation memorandum in the form of Exhibit C

(modified as necessary for this Second Amendment) of the Original Lease (confirming the Suite 450 Expansion Commencement Date and Suite 500 Expansion Commencement Date), which amendment or confirmation memorandum Tenant shall execute and return to Landlord within ten (10) business days of receipt thereof, unless Tenant believes that such confirmation memorandum is incorrect, in which case Tenant shall inform Landlord within such ten (10) bus iness day period.

4. Base Rent .

4.1. Base Rent for Suite 450 Expansion Space . Notwithstanding anything to the contrary in the Lease, commencing on the Suite 450 Expansion Commencement Date, Tenant shall pay, in accordance with the provisions of this Section 4.1 but subject to abatement as provided in Section 5 below, Base Rent for the Suite 450 Expansion Space as follows:

Period	**Annual Base Rent**	****Monthly Installment of Base Rent**	*****Monthly Rental Ra per Rentable Square Fo**
*Suite 450 Expansion Commencement Date – 03/22/18	$1,087,948.80	$90,662.40	$4.80
*03/23/18 – 03/22/19	$1,126,026.90	$93,835.58	$4.97
03/23/19 – 03/22/20	$1,165,437.80	$97,119.82	$5.14
03/23/20 – 03/22/21	$1,206,228.10	$100,519.01	$5.32
03/23/21 – 03/22/22	$1,248,446.00	$104,037.17	$5.51
03/33/22 – 03/22/23	$1,292,141.60	$107,678.47	$5.70
03/23/23 – 03/23/24	$1,337,366.50	$111,447.21	$5.90
03/23/24 – 03/23/25	$1,384,174.30	$115,347.86	$6.10
03/23/25 – 03/22/26	$1,432,620.30	$119,385.03	$6.31
03/23/26 – 03/22/27	$1,482,762.00	$123,563.50	$6.53
03/23/27 – 01/31/28	$1,534,658.60	$127,888.22	$6.76

*Subject to abatement as provided in Section 5 below.

**The initial monthly installment of Base Rent amount was calculated by multiplying the initial monthly Base Rent rate per rentable square foot amount by the number of rentable square feet of space in the Suite 450 Expansion Space. In all subsequent Base Rent payment periods, the

calculation of each monthly installment of Base Rent amount reflects an annual increase of three and one-half percent (3.50%).

***The amounts identified in the column entitled "Monthly Rental Rate per Rentable Square Foot" are rounded amounts provided for informational purposes only.

4.2. Base Rent for Suite 500 Expansion Space . Notwithstanding anything to the contrary in the Lease, commencing on the Suite 500 Expansion Commencement Date, Tenant shall pay, in accordance with the provisions of this Section 4.2 but subject to abatement as provided in Section 5 below, Base Rent for the Suite 500 Expansion Space as follows:

Period	**Annual Base Rent**	****Monthly Installment of Base Rent**	***Monthly Rental Ra per Rentable Square Fo
*Suite 500 Expansion Commencement Date – 03/22/18	$1,899,532.80	$158,294.40	$4.80
*03/23/18 – 03/22/19	$1,966,016.40	$163,834.70	$4.97
03/23/19 – 03/22/20	$2,034,826.90	$169,568.91	$5.14
03/23/20 – 03/22/21	$2,106,045.80	$175,503.82	$5.32
03/23/21 – 03/22/22	$2,179,757.40	$181,646.45	$5.51
03/33/22 – 03/22/23	$2,256,048.80	$188,004.07	$5.70
03/23/23 – 03/23/24	$2,335,010.50	$194,584.21	$5.90
03/23/24 – 03/23/25	$2,416,735.80	$201,394.65	$6.10
03/23/25 – 03/22/26	$2,501,321.50	$208,443.46	$6.31
03/23/26 – 03/22/27	$2,588,867.70	$215,738.98	$6.53
03/23/27 – 01/31/28	$2,679,478.00	$223,289.84	$6.76

*Subject to abatement as provided in Section 5 below.

**The initial monthly installment of Base Rent amount was calculated by multiplying the initial monthly Base Rent rate per rentable square foot amount by the number of rentable square feet of space in the Suite 500 Expansion Space. In all subsequent Base Rent payment periods during the Term, the calculation of each monthly installment of Base Rent amount reflects an annual increase of three and one-half percent (3.50%).

***The amounts identified in the column entitled "Monthly Rental Rate per Rentable Square Foot" are rounded amounts provided for informational purposes only.

5. Monthly Base Rent Abatement . Notwithstanding anything to the contrary contained in the Lease or in this Second Amendment, and so long as Tenant is not then in default under the Lease (as modified by this Second Amendment) beyond the expiration of all applicable notice and cure periods, Landlord hereby agrees to abate (i) Tenant's obligation to pay Tenant's monthly Base Rent for the Suite 450 Expansion Space for the first eight (8) full months following the Suite 450 Expansion Commencement Date, and (ii) Tenant's obligation to pay monthly Base Rent for the Suite 500 Expansion Space until September 1, 2018 (collectively, the " **Abated Rent** "). During such abatement periods, Tenant shall still be responsible for the payment of all of its other monetary obligations under the Lease, as amended by this Second Amendment. In the event of a default by Tenant under the terms of the Lease, as amended by this Second Amendment, that results in early termination pursuant to the provisions of Article 19 of the Original Lease, then as part of the recovery set forth in Article 19 of the Original Lease, Landlord shall be entitled to the recovery of the unamortized amount of the Abated Rent that was abated under the provisions of this Section 5.

6. Condition of Premises . Tenant hereby agrees to accept the Expansion Space in its "as-is" condition and Tenant hereby acknowledges that Landlord, except as otherwise provided in this Second Amendment, shall not be obligated to pay for any improvement work or services related to the improvement of the Expansion Space. Except as set forth in this Second Amendment, Tenant also acknowledges that Landlord has made no representation or warranty regarding the condition of the Expansion Space; provided, however, in the event that, after Landlord's delivery of the Expansion Space, the Base, Shell and Core of the Building (as defined in Section 1 of the Work Letter), which includes the Systems and Equipment, the base building HVAC, plumbing, life safety and electrical systems of the Building as well as the roof and roof membrane, (A) does not comply with applicable laws, seismic, fire and life safety codes, and the ADA (to the extent applicable), in effect as of the date of this Second Amendment, or (B) contains latent defects, then Landlord shall be responsible, at its sole cost and expense which shall not be included in Operating Expenses (except as otherwise permitted in Section 4.2 of the Original Lease), for correcting any such non-compliance to the extent required by such applicable laws, codes and the ADA as soon as reasonably possible after receiving notice thereof from the applicable governmental authority or Tenant, and/or correcting such latent defects as soon as reasonably possible after receiving notice thereof from Tenant. Notwithstanding the foregoing, if Tenant fails to give Landlord written notice of any such latent defects in clause (B) hereinabove within six (6) months after the Suite 500 Expansion Commencement Date, then the correction of any such latent defects shall, subject to Landlord's repair obligations in Section 7.2 of the Original Lease (and to the extent such correction is a responsibility of Tenant pursuant to Section 7.1 of the Original Lease), be Tenant's responsibility at Tenant's sole cost and expense.

7. Parking . Commencing as of the Suite 450 Expansion Commencement Date, Tenant shall be entitled to forty-five (45) additional unreserved parking spaces. Commencing as of the Suite 500 Expansion Commencement Date, Tenant shall be entitled to an additional one hundred five (105) additional unreserved parking spaces. Tenant's use of all such additional parking spaces shall be subject to the terms and conditions of the Lease.

8. Tenant's Share of Operating Expenses, Tax Expenses and Utilities Costs . Notwithstanding anything to the contrary in the Lease , (i) commencing as of the Suite 450 Expansion Commencement Date, Tenant's Share of Operating Expenses, Tax Expenses and Utilities Costs shall be deemed increased to 19.42% (based on (i) the addition of the Suite 450 Expansion Space (18,888 rentable square feet) to the Existing Premises for a total of 66,006 rentable square feet and (ii) the Building rentable square footage of 339,791), and (ii) commencing as of the Suite 500 Expansion Commencement Date, Tenant's Share of Operating Expenses, Tax Expenses an d Utilities Costs shall be deemed increased to 29.10% (based on (i) the addition of the Suite 500 Expansion Space (32,978 rentable square feet) to the Existing Premises for a total of 98,884 rentable square feet and (ii) the Building rentable square footag e of 339,791).

9. Brokers . Each party represents and warrants to the other that, except for Savills Studley (" **Tenant's Broker** "), no broker, agent or finder negotiated or was instrumental in negotiating or consummating this Second Amendment. Each party further agrees to defend, indemnify and hold harmless the other party from and against any claim for commission or finder's fee by any person or entity (other than Tenant's Broker) who claims or alleges that they were retained or engaged by the first party or at the request of such party in connection with this Second Amendment. Landlord shall pay the commission due to Tenant's Broker in connection with this Second Amendment pursuant to a separate agreement.

10. Monument Sign and Conditional Building Exterior Signage .

10.1. Monument Sign . Subject to the approval of all applicable governmental authorities, and compliance with all applicable laws and any CC&Rs which have been provided to Tenant, and the terms of this Section 10.1, Tenant shall have the non-exclusive right to install, at Tenant's sole discretion, cost and expense, one (1) identification sign on the existing signage monument for the Building located near Airport Boulevard and depicted on Exhibit D attached hereto (the " **Monument** "), which identification sign shall display the name, "Achaogen" only, unless otherwise approved by Landlord, which approval shall not be unreasonably withheld. Tenant's identification sign on the Monument shall be referred to herein as " **Tenant's Monument Sign** ". The graphics, materials, color, design, lettering, lighting, size, specifications, manner of affixing and exact location of Tenant's Monument Sign shall be subject to Landlord's reasonable approval. Tenant shall pay for all costs and expenses related to Tenant's Monument Sign, including, without limitation, costs of the design, construction, installation, maintenance, insurance, utilities, repair and replacement thereof; provided, however, Tenant shall only pay a pro-rata portion (as reasonably determined by Landlord) of the costs of maintenance, insurance, utilities and repairs with respect to the Monument Sign. Tenant shall install and maintain the Monument Sign in compliance with all laws and CC&Rs which are provided to Tenant and subject to the applicable provisions the Lease. Notwithstanding the foregoing, Landlord shall be responsible for maintenance of the Monument as well as any associated lighting and landscaping.

10.2. Conditional Building Exterior Signage . Landlord has informed Tenant that an existing tenant (" **Existing Tenant** ") of the Building has exclusive rights to exterior signage on the Building (the " **Existing Tenant Exterior Signage Rights** "). Upon the expiration or sooner termination of the lease of such Existing Tenant or the expiration of such Existing Tenant Exterior Sign Rights, then Tenant shall, subject to the approval of all applicable governmental authorities and compliance with all applicable laws, any CC&Rs that are provided to Tenant and the terms of

this Section 10.2, have a right of first refusal to ins tall, on an exclusive basis, its name on the exterior of the Building (" **Conditional Exterior Signage** "), such right to be exercised, if at all, by Tenant providing written notice to Landlord of Tenant's exercise of such right no later than thirty (30) days after the date Landlord provides Tenant with written notice that such exterior signage is available or is expected to become available, which Landlord shall provide promptly once it is aware that such exterior signage is available or is expected to become available. The graphics, materials, color, design, lettering, lighting, size, specifications, manner of affixing and exact location of Tenant's Conditional Exterior Signage shall be subject to Landlord's reasonable approval. Tenant shall pay for all cost s and expenses related to Tenant's Conditional Exterior Signage, including, without limitation, costs of the design, construction, installation, maintenance, insurance, utilities, repair and replacement thereof; provided, however, that Landlord shall insta ll, maintain and repair the Conditional Exterior Signage. Landlord shall not provide the right to any exterior signage on the Building to any other tenant at the Building or any other person or entity that would be effective at any time when Tenant's exte rior signage rights under this Section 10.2 are effective (but Landlord shall have the right to provide conditional Building exterior signage rights to a tenant which would only be effective once Tenant's Exterior Signage rights are no longer in effect).

11. CASp . For purposes of Section 1938(a) of the California Civil Code, Landlord hereby discloses to Tenant, and Tenant hereby acknowledges, that the Premises and the Expansion Space have not undergone inspection by a Certified Access Specialist (CASp). In addition, the following notice is hereby provided pursuant to Section 1938(e) of the California Civil Code: "A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises." In furtherance of and in connection with such notice: (i) Tenant, having read such notice and understanding Tenant's right to request and obtain a CASp inspection and with advice of counsel, hereby elects not to obtain such CASp inspection and forever waives its rights to obtain a CASp inspection with respect to the Existing Premises, the Expansion Space, the Building, and/or the Project to the extent permitted by applicable laws now or hereafter in effect; and (ii) if the waiver set forth in clause (i) hereinabove is not enforceable pursuant to applicable laws now or hereafter in effect, then Landlord and Tenant hereby agree as follows (which constitute the mutual agreement of the parties as to the matters described in the last sentence of the foregoing notice): (A) Tenant shall have the one-time right to request for and obtain a CASp inspection, which request must be made, if at all, in a written notice delivered by Tenant to Landlord on or before the Suite 500 Expansion Commencement Date; (B) any CASp inspection timely requested by Tenant shall be conducted (1) between the hours of 9:00 a.m. and 5:00 p.m. on any business day, (2) only after ten (10) days' prior written notice to Landlord of the date of such CASp inspection, (3) in a professional manner by a CASp designated by Landlord and without any testing that would damage the Existing Premises, the Expansion Space, the Building or the Project in any way, (4) in accordance with all of the provisions of the Lease applicable to Tenant contracts for construction, and (5) at Tenant's sole cost and expense,

including, without limitation, Tenant's payment o f the fee for such CASp inspection, the fee for any reports and/or certificates prepared by the CASp in connection with such CASp inspection (collectively, the " **CASp Reports** ") and all other costs and expenses in connection therewith; (C) Landlord shall be an express third party beneficiary of Tenant's contract with the CASp, and any CASp Reports shall be addressed to both Landlord and Tenant; (D) Tenant shall deliver a copy of any CASp Reports to Landlord within two (2) business days after Tenant's receipt thereof; (E) any information generated by the CASp inspection and/or contained in the CASp Reports shall not be disclosed by Tenant to anyone other than (I) contractors, subcontractors and/or consultants of Tenant, in each instance who have a need to know such information and who agree in writing not to further disclose such information, or (II) any governmental entity, agency or other person, in each instance to whom disclosure is required by law or by regulatory or judicial process; (F) Tenant, at its sol e cost and expense, shall be responsible for making any improvements, alterations, modifications and/or repairs to or within the Existing Premises or the Expansion Space to correct violations of construction-related accessibility standards, including, with out limitation, any violations disclosed by such CASp inspection; and (G) if such CASp inspection identifies any improvements, alterations, modifications and/or repairs necessary to correct violations of construction-related accessibility standards relatin g to those items of the Building and/or the Project located outside the Existing Premises or the Expansion Space that are Landlord's obligation to repair as set forth in the Lease, then Landlord shall perform such improvements, alterations, modifications a nd/or repairs as and to the extent required by applicable laws to correct such violations, and Tenant shall reimburse Landlord for the cost of such improvements, alterations, modifications and/or repairs within ten (10) business days after Tenant's receipt of an invoice therefor from Landlord.

12. Security Deposit . Concurrently with Tenant's execution of the Original Lease (and pursuant to Article 20 of the Original Lease), Tenant provided Landlord with a Letter of Credit in the amount of Two Hundred Fifty Thousand Dollars ($250,000.00) (the " **Existing LC** "). Concurrently with Tenant's execution and delivery of this Second Amendment to Landlord, Tenant shall deliver to Landlord an additional Letter of Credit in the amount of Two Hundred Eighty Thousand Dollars ($280,000.00) in accordance with (and pursuant to) the terms and conditions of Article 20 of the Original Lease.

13. Tenant's Use of Fire Stairwell . Tenant shall have the right to use the Building's fire stairwell between floors 3, 4 and 5 of the Building for ingress and egress from the Premises and, subject to approval by all governmental authorities, shall have the right to install, at Tenant's sole cost, a security access system (pursuant to plans and specifications reasonably approved by Landlord) for access to the Premises from such fire stairwell.

14. Additional Control Area and Hazmat Storage Spaces . Effective as of the date hereof, Tenant shall be entitled to use Tenant Storage Area "3" depicted on Exhibit C and Hazmat Storage Spaces "2.1A", "2.1B" and "2.2" depicted on Exhibit C (all in addition to Tenant's existing Control Areas and Hazmat Storage Spaces).

15. Existing Furniture . Tenant shall have the right to use certain furniture existing in the Expansion Space as of the date hereof (the " **iLabs Furniture** "), which iLabs Furniture is depicted on Exhibit "A" attached hereto. Tenant's use of such iLabs Furniture is on an as-is basis and Landlord makes no representation or warranty regarding the same. Landlord will remove all

existing furniture from the Expa nsion Space other than the iLabs Furniture prior to the Suite 450 Expansion Commencement Date and Suite 500 Expansion Commencement Date, as applicable .

16. Permitted Alterations . Clause (i) of the second sentence of Section 8.1 of the Existing Lease is hereby amended by replacing "One Hundred Thousand Dollars ($100,000)" with "One Hundred Twenty-Five Thousand Dollars ($125,000)".

17. Recapture . Section 14.4 of the Original Lease is hereby amended and restated in its entirety as follows:

"14.4 Landlord's Option as to Subject Space . Notwithstanding anything to the contrary contained in this Article 14, except as provided below, Landlord shall have the option, by giving written notice to Tenant within twenty (20) days after receipt of any Transfer Notice that proposes a Transfer that is an assignment of this Lease or a sublease of over seventy-five percent (75%) of the Premises for a term that expires within three (3) months of the Lease Expiration Date, to terminate this Lease. Such notice shall terminate this Lease as of the date stated in the Transfer Notice as the effective date of the proposed Transfer. If Landlord declines, or fails to elect in a timely manner to terminate the Lease under this Section 14.4, then, provided Landlord has consented to the proposed Transfer, Tenant shall be entitled to proceed to transfer the Subject Space to the proposed Transferee, subject to provisions of the last paragraph of Section 14.2 above."

18. SNDA . Landlord shall cause Landlord's existing lender with a deed of trust encumbering the Building to provide Tenant with either an amendment to the existing SNDA (as defined in the Original Lease) or a new SNDA which covers this Second Amendment. In the event that Landlord does not provide the SNDA amendment or new SNDA from Landlord's existing lender within fifteen (15) business days after the date of this Second Amendment, then Tenant shall be entitled to one (1) day of Base Rent abatement for the Expansion Space for each day of delay beyond such fifteen (15) business day period in Landlord providing Tenant with the SNDA Amendment or new SNDA; such Base Rent abatement (if any) shall be applied toward the Base Rent for the Expansion Space first coming due hereunder..

19. No Removal Obligation . Notwithstanding anything in the Lease or this Second Amendment to the contrary, Tenant shall have no obligation to remove any of the Tenant Improvements (as defined in the Original Lease) or the Tenant Improvements (as defined in the Work Letter) at the end of the Lease Term or otherwise unless, with respect to the Tenant Improvements described in the Work Letter, Landlord informs Tenant at the time Landlord approves the Construction Drawings for the Tenant Improvements that Landlord will require removal of all or any portion of the same; provided, however, that Landlord will be reasonable in making such removal determination and Landlord shall not require removal of Tenant Improvements which are substantially similar to, or substantially compatible with, the Tenant Improvements in the Existing Premises.

20. Escalation of Additional Allowances . For avoidance of doubt, Landlord and Tenant acknowledge and agree that the Additional Allowance described in Section 2.1 of the Tenant Work Letter attached to the Original Lease and the Additional Allowance described in Section 2.1 of the attached Tenant Work Letter (collectively, the " **Additional Allowances** ") and the Amortization

Rent based on amortization of the Additional Allowances escalates as Base Rent escalates in the Lease such that the Base Rent payable by Tenant shall be increased based on the amount of the Amortization Rent for the Additional Allowances (and such amount shall be subject to annual escalations consistent with the annual escalations in Base Rent set forth in Section 8 of the Summary).

21. Signing Authority . Each individual executing this Second Amendment on behalf of Landlord and Tenant hereby represents and warrants that each person signing on behalf of Landlord and Tenant, respectively, is authorized to do so. Each of Landlord and Tenant represents and warrants that it is a duly formed and existing entity qualified to do business in the State of California and has full right and authority to execute and deliver this Second Amendment.

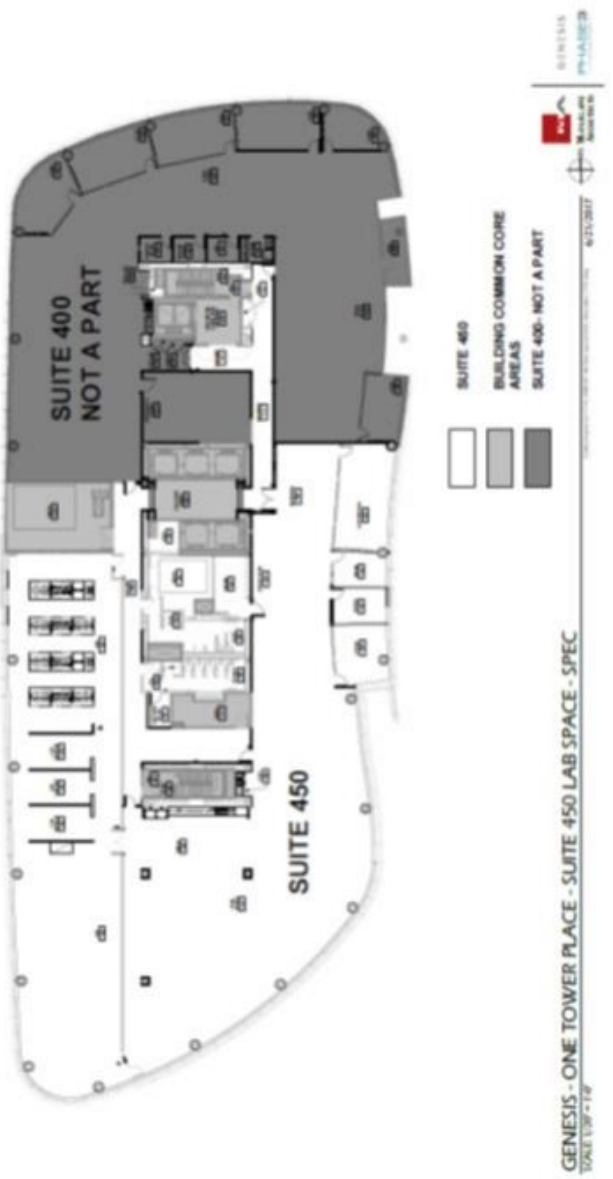
22. No Further Modification . Except as set forth in this Second Amendment, all of the terms and provisions of the Lease shall remain unmodified and in full force and effect.

IN WITNESS WHEREOF, this Second Amendment has been executed as of the day and year first above written.

"LANDLORD"	AP3 SF2 CT SOUTH, LLC, a Delaware limited liability company By: /s/ Michael Gerrity Name: Michael Gerrity Its: President
"TENANT"	ACHAOGEN, INC., a Delaware corporation By: /s/ Blake Wise Name: Blake Wise Its: President and COO

EXHIBIT A

EXPANSION SPACE



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SUITE 500

BUILDING COMMON CORE AREAS

GENESIS - ONE TOWER PLACE - SUITE 500 LAB SPACE - SPEC

EXHIBIT B

TENANT WORK LETTER

This Tenant Work Letter (" **Tenant Work Letter** " or " **Work Letter** ") shall set forth the terms and conditions relating to the construction of the Expansion Space. All references in this Tenant Work Letter to the "Second Amendment" shall mean the relevant portions of the Second Amendment to which this Tenant Work Letter is attached as Exhibit B.

SECTION 1

BASE, SHELL AND CORE

Landlord has previously constructed the base, shell and core (i) of the Expansion Space and (ii) of the floor(s) of the Building on which the Expansion Space are located (collectively, the " **Base, Shell and Core** "), and Tenant shall, subject to Section 6 of the Second Amendment, accept the Base, Shell and Core in its current "As-Is" condition existing as of the date of the Second Amendment and the applicable Expansion Commencement Date. Except for the Tenant Improvement Allowance (and the Additional Allowance, if applicable) set forth below, Landlord shall not be obligated to make or pay for any alterations or improvements to the Existing Premises, the Expansion Space, the Building or the Project.

SECTION 2

TENANT IMPROVEMENTS

2.1 Tenant Improvement Allowance . Tenant shall be entitled to a one-time tenant improvement allowance (the " **Tenant Improvement Allowance** ") in the amount of up to, but not exceeding, Nine Hundred Eighty-Nine Thousand Eight Hundred Thirty Dollars ($989,830.00) to help Tenant pay for the costs of the design, permitting and construction of Tenant's initial improvements which are permanently affixed to the Existing Premises and the Expansion Space (collectively, the " **Tenant Improvements** "); provided, however, that Landlord shall have no obligation to disburse all or any portion of the Tenant Improvement Allowance (nor the Additional Allowance, if applicable) to Tenant unless Tenant makes a request for disbursement pursuant to the terms and conditions of Section 2.2 below prior to that date which is one hundred eighty (180) days after the Suite 500 Expansion Commencement Date. Notwithstanding anything in this Tenant Work Letter to the contrary, an amount not to exceed Two Hundred Fifty-Nine Thousand Three Hundred Thirty Dollars ($259,330.00) of any unused amount of the Tenant Improvement Allowance shall be made available to Tenant to help Tenant pay for the actual and documented costs incurred by Tenant for the purchase of and installation of furniture, fixtures and equipment for the Expansion Space (the " **FF&E Costs** "). Landlord shall disburse from the Tenant Improvement Allowance the available portion thereof to help Tenant pay for the FF&E Costs actually incurred by Tenant within thirty (30) days after Landlord has received Tenant's written request for disbursement together with copies of paid invoices from third parties evidencing the amount of such FF&E Costs to be paid by Landlord; such disbursement request shall be delivered (if at all) no later than sixty (60) days after the Suite 500 Expansion Commencement Date. In no event shall Landlord be obligated to make disbursements pursuant to this Tenant Work Letter in a total amount which exceeds the Tenant Improvement Allowance (nor the Additional Allowance

(if applicable)). In the event that there exists an "Over-Allowance Amount" under Section 4.3.1 of Tenant Work Letter of the Original Lease after application of the Tenant Improv ement Allowance and Additional Allowance elected by Tenant to be applied for improvements under the Original Lease, then Tenant shall have the right to have Landlord apply the Tenant Improvement Allowance and Additional Allowance hereunder for any such Ove r-Allowance Amount under the Original Lease; provided, however, that Tenant shall not have the right to apply the Tenant Improvement Allowance nor the Additional Allowance described herein for costs which the Additional Allowance described in the Original Lease is to be used (i.e., the Tenant Improvement Allowance and Additional Allowance under this Tenant Work Letter may only be applied to cover costs (i.e., the Over-Allowance Amount) under the Original Lease existing after application of the allowances un der the Original Lease and may not be applied against the allowances under the Original Lease). Tenant shall not be entitled to receive any cash payment or credit against Rent or otherwise for any unused portion of the Tenant Improvement Allowance (nor th e Additional Allowance, if applicable) which is not used to pay for the Tenant Improvement Allowance Items (as defined below). Notwithstanding anything above to the contrary, in the event there exists an Over-Allowance Amount (as defined in Section 4.2.1 below), Tenant shall have the option, exercisable upon written notice to Landlord, to require Landlord to provide a one-time additional improvement allowance (the " **Additional Allowance** ") in the amount not to exce ed One Million Four Hundred Eighty-Four Thousand Seven Hundred Forty-Five Dollars ($1,484,745.00). In the event Tenant exercises such option and as consideration for Landlord providing such Additional Allowance to Tenant, the Base Rent payable by Tenant t hroughout the entire Term of Tenant's lease of the Suite 500 Expansion Space (" **Amortization Period** ") shall be increased by an amount sufficient to fully amortize such Additional Allowance throughout said period ba sed upon equal monthly payments of principal and interest, with interest imputed on the outstanding principal balance at the rate of nine percent (9%) per annum (the " **Amortization Rent** ") , subject to the following provisions regard ing Tenant's right to pay off the Additional Allowance early . By way of illustration, if Tenant utilizes the entire Additional Allowance and if the Suite 500 Expansion Commencement Date occurs on January 1, 2018 (for a one hundred twenty-one (121) month t erm) then the initial Base Rent payable by Tenant for the Suite 500 Expansion Space under this Second Amendment shall be increased by $0.57 per rentable square feet (with an initial start rate of $5.37 per rentable square foot and the Base Rent schedule se t forth in Section 4.2 of this Second Amendment shall be revised to reflect such increased Base Rent for all time periods under this Lease. Such revised Base Rent schedule shall be memorialized in an amendment to this Lease to be executed by Landlord and Tenant. The Tenant Improvement Allowance and the Additional Allowance may collectively be referred to herein as the " **Allowances** ". Notwithstanding anything above to the contrary, Tenant shall have the right, to be exercised by written notice to Landlord at any time prior to March 31, 2020, to pay to Landlord the entirety of the Additional Allowance utilized by Tenant. In the even t that Tenant makes such election, then Landlord shall provide Tenant with a calculation of the Additional Allowance amount that is owed (less any reduction of the same based on the Amortization Rent component of Base Rent previously paid by Tenant (if any) (" **Landlord's Cost Calculation** "). Tenant shall pay the amount set forth in Landlord's Cost Calculation (provided it is not in error) within ten (10) days after Tenant's receipt thereof and Landlord and T enant shall promptly execute an amendment which will reflect such payment of the Additional Allowance , shall include a revised Base Rent schedule to reflect that Tenant is no longer obligated to pay Amortization Rent , and shall confirm that no interest sha ll accrue on the Additional Allowance after the date of payment .

2.2 Disbursement of the Tenant Improvement Allowance .

2.2.1 Tenant Improvement Allowance Items . Except as otherwise set forth in this Tenant Work Letter, the Tenant Improvement Allowance shall be disbursed by Landlord only for the following items and costs (collectively, the " **Tenant Improvement Allowance Items** "):

2.2.1.1 Payment of (i) the fees of the Architect and the Engineers (as such terms are defined below), (ii) the fees incurred by, an d the cost of documents and materials supplied by, Landlord and Landlord's consultants in connection with the preparation and review of the Construction Drawings (as defined below), and (iii) the costs of Tenant's construction manager but in no event shall more than two percent (2%) of the Allowances be used to pay for the cost and fees of Tenant's construction manager;

2.2.1.2 The payment of plan check, permit and license fees relating to construction of the Tenant Improvements;

2.2.1.3 The cost of constru ction of the Tenant Improvements, including, without limitation, contractors' fees and general conditions, testing and inspection costs, costs of utilities, trash removal, parking and hoists, and the costs of after-hours freight elevator usage.

2.2.1.4 The cost of any changes in the Base, Shell and Core work when such changes are required by the Construction Drawings (including if such changes are due to the fact that such work is prepared on an unoccupied basis), such cost to include all direct architectural and/or engineering fees and expenses incurred in connection therewith;

2.2.1.5 The cost of any changes to the Construction Drawings or Tenant Improvements required by applicable laws;

2.2.1.6 Sales and use taxes and Title 24 fees; and

2.2.1.7 The Coordi nation Fee (as defined below).

2.2.2 Disbursement of Tenant Improvement Allowance . Subject to Section 2.1 above, during the construction of the Tenant Improvements, Landlord shall make monthly disbursements of the Tenant Improvement Allowance (and the Additional Allowance if applicable) or Tenant Improvement Allowance Items for the benefit of Tenant and shall authorize the release of monies for the benefit of Tenant as follows:

2.2.2.1 Monthly Disbursements . From time to time during the construction of the Tenant Improvements (but no more frequently than monthly), Tenant shall deliver to Landlord: (i) a request for payment of the Contractor (as defined below) or Tenant (if it has previously paid the Contractor), approved by Tenant, in a reasonable form to be provided by Landlord, showing the schedule, by trade, of percentage of completion of the Tenant Improvements in the Expansion Space (and Existing Premises, if applicable), detailing the portion of the work completed and the portion not completed, and demonstrating that the relationship

between the cost of the work completed and the cost of the work to be completed complies with the terms of the Construction Budget (as defined below); (ii) invoices from all of Tenant's Agents (as defined below), for lab or rendered and materials delivered to the Expansion Space and Existing Space, if applicable; (iii) executed mechanic's lien releases from all of Tenant's Agents which shall comply with the appropriate provisions, as reasonably determined by Landlord, of C alifornia Civil Code Section 8134 and 8132; and (iv) if requested by Landlord, the construction back-up items described on Schedule 2 attached hereto to the extent otherwise not covered above. Following Landlord's receipt of a completed disbursement reque st submission, Landlord shall deliver a check to Tenant made jointly payable to the Tenant and Tenant's Agent (which is the payee for such work or portion thereof) in payment of the lesser of (A) the amounts so requested by Tenant, as set forth in this Sec tion 2.2.2.1, above, less a ten percent (10%) retention (the aggregate amount of such retentions to be known as the " **Final Retention** ") and (B) the balance of any remaining available portion of the Tenant Improvement Allowance (not including the Final Reten tion), provided that Landlord does not reasonably dispute any request for payment based on non-compliance of any work with the Approved Working Drawings (as defined below). Landlord's payment of such amounts shall not be deemed Landlord's approval or acce ptance of the work furnished or materials supplied as set forth in Tenant's payment request. If, at the time of any request for payment, there are unpaid amounts relating to prior requests, Landlord shall provide Tenant with the status of such unpaid amou nts, including any additional information required for payment. In the event Tenant has paid Tenant's Agent directly for certain Tenant Improvement Allowance Items and if Tenant's Agent has provided an unconditional lien release with respect to such paid Tenant Improvement Allowance Item, then Landlord shall make such disbursement check payable solely to Tenant for such Tenant Improvement Allowance Item disbursement.

2.2.2.2 Final Retention . Subject to the provisions of this Tenant Work Letter, a check for the Final Retention payable jointly to Tenant and the Tenant's Agent (which is the payee for such work or portion thereof) shall be delivered by Landlord to Tenant following the completion of construction of the Expansion Space, provided that (i) Landlord has determined that no substandard work exists which adversely affects the mechanical, electrical, plumbing, HVAC, life-safety or other systems of the Building, the curtain wall of the Building, the structure or exterior appearance of the Building, or any other tenant's use of such other tenant's leased Expansion Space in the Building; and (ii) Tenant has delivered to Landlord: (A) properly executed and final unconditional mechanics lien releases in compliance with applicable California law or conditional mechanics lien releases for amounts to be paid by the Final Retention; (B) a certificate of occupancy or permit cards signed off by the City of South San Francisco (the " **City** ") with respect to the Expansion Space; (C) as-built plans and City-permitted plans for the Tenant Improvements; (D) operation manuals and warranties for equipment included within the Tenant Improvements, if applicable; (E) copy of the contract with the Contractor; (F) copy of the Contractor's certificate of insurance, including Additional Insured endorsement naming Landlord (and any other party requested by Landlord) as additional insureds; and (G) the Contractor's schedule of values, showing total contract value. In the event Tenant has paid Tenant's Agent directly for certain Tenant Improvement Allowance Items and if Tenant's Agent has provided an unconditional lien release with respect to such paid Tenant Improvement Allowance Item, then Landlord shall make such disbursement check payable solely to Tenant for such Tenant Improvement Allowance Item disbursement.

2.2.2.3 Other Terms . Landlord shall only be obligated to make disbursements from the Tenant Improvement Allowance (and, if applicable, the Additional Allowance) to the extent costs are incurred by Tenant for Tenant Improveme nt Allowance Items.

2.2.3 Specifications for Building Standard Components . Landlord has established specifications (the " **Specifications** ") for the Building standard components to be used in the construction of the Tenant Improvements in the Expansion Space which Specifications are attached hereto as Schedule 1. Unless otherwise agreed to by Landlord, the Tenant Improvements shall comply with the Specifications. Landlord's approval with respect to any commercially reasonable changes to the Specifications requested by Tenant shall not be unreasonably withheld. Landlord may make changes to the Specifications from time to time, provided such changes are not applied retroactively.

SECTION 3

CONSTRUCTION DRAWINGS

3.1 Selection of Architect/Construction Drawings . Tenant shall retain an architect/space planner (the " **Architect** ") approved by Landlord, which approval shall not be unreasonably withheld, to prepare the Construction Drawings. Tenant shall retain engineering consultants (the " **Engineers** ") approved by Landlord, which approval shall not be unreasonably withheld, to prepare all plans and engineering working drawings relating to the structural, mechanical, electrical, plumbing, HVAC, lifesafety, and sprinkler work in the Expansion Space. If Landlord fails to either approve or disapprove any proposed Architect or Engineers within five (5) business days after written request, such Architects and Engineers shall be deemed approved. The plans and drawings to be prepared by Architect and the Engineers hereunder shall be known collectively as the " **Construction Drawings** ." As part of Tenant's Tenant Improvement work, Tenant shall have the right to install an internal stairwell between floors 3, 4 and 5 in the Building, subject, however, to the approval of all governmental authorities and Landlord's reasonable approval of the Construction Drawings pertaining to such stairwell improvements. All Construction Drawings shall comply with the drawing format and specifications reasonably determined by Landlord, and shall be subject to Landlord's reasonable approval, which shall not be unreasonably withheld and in any case of Landlord disapproval, Landlord shall set forth with specificity the particular aspects of the Construction Drawings that are disapproved and describe the code-compliant changes necessary. Landlord shall have a period of ten (10) business days to approve or disapprove the Construction Drawings. If Landlord fails to either approve or disapprove any Construction Drawings within ten (10) business days after delivery, such Construction Drawings shall be deemed approved. Once Landlord has approved the Construction Drawings, then Landlord shall have five (5) business days after Landlord receives any Tenant proposed modifications to such Construction Drawings to approve or disapprove the same. If Landlord fails to either approve or disapprove any such modifications within five (5) business days after delivery, such modifications shall be deemed approved. Tenant and Architect shall verify, in the field, the dimensions and conditions as shown on the relevant portions of the base building plans, and Tenant and Architect shall be solely responsible for the same, and Landlord shall have no responsibility in connection therewith. Landlord's review of the Construction Drawings as set forth in this Section 3, shall be for its sole purpose and shall not imply Landlord's review of the same, or obligate Landlord to review the same, for quality, design, code compliance or other like

matters. Accordingly, notwithstanding that any Construction Drawings are reviewed by Landlord o r its space planner, architect, engineers and consultants, and notwithstanding any advice or assistance which may be rendered to Tenant by Landlord or Landlord's space planner, architect, engineers, and consultants, Landlord shall have no liability whatsoe ver in connection therewith and shall not be responsible for any omissions or errors contained in the Construction Drawings.

3.2 Final Space Plan . Tenant shall supply Landlord with four (4) copies signed by Tenant of its final space plan for the Expansion Space before any architectural working drawings or engineering drawings have been commenced. The final space plan (the " **Final Space Plan** ") shall include a layout and designation of all offices, rooms and other partitioning, their intended use, and equipment to be contained therein. Landlord may request clarification or more specific drawings for special use items not included in the Final Space Plan. Landlord shall advise Tenant within five (5) business days after Landlord's receipt of the Final Space Plan for the Expansion Space if the same is unsatisfactory or incomplete in any reasonable respect, and failure of Landlord to so advise during such period shall be deemed Landlord's approval of the Final Space Plan. If Tenant is so advised, Tenant shall promptly (i) cause the Final Space Plan to be revised to correct any deficiencies or other matters Landlord may reasonably require, and (ii) deliver such revised Final Space Plan to Landlord.

3.3 Final Working Drawings . After the Final Space Plan has been approved by Landlord and Tenant, Tenant shall promptly cause the Architect and the Engineers to complete the architectural and engineering drawings for the Expansion Space, and cause the Architect to compile a fully coordinated set of architectural, structural, mechanical, electrical and plumbing working drawings in a form which is complete to allow subcontractors to bid on the work and to obtain all applicable permits for the Tenant Improvements (collectively, the " **Final Working Drawings** "), and shall submit the same to Landlord for Landlord's approval, which shall not be unreasonably withheld. Tenant shall supply Landlord with four (4) copies signed by Tenant of such Final Working Drawings. Landlord shall advise Tenant within five (5) business days after Landlord's receipt of the Final Working Drawings for the Expansion Space if the same is unsatisfactory or incomplete in any reasonable respect, and failure of Landlord to so advise during such period shall be deemed Landlord's approval of the Final Working Drawings. If Tenant is so advised, Tenant shall promptly (i) revise the Final Working Drawings in accordance with such review and any reasonable disapproval of Landlord in connection therewith, so long as Landlord sets forth with specificity the particular aspects of the Final Working Drawings that are disapproved and describes the code-compliant changes necessary, and (ii) deliver such revised Final Working Drawings to Landlord.

3.4 Approved Working Drawings . The Final Working Drawings shall be approved by Landlord (the " **Approved Working Drawings** ") prior to the commencement of construction of the Expansion Space by Tenant. After approval by Landlord of the Final Working Drawings (or concurrently with submission of the same to Landlord for approval), Tenant shall promptly submit the same to the appropriate governmental authorities for all applicable building permits. Tenant hereby agrees that neither Landlord nor Landlord's consultants shall be responsible for obtaining any building permit or certificate of occupancy for the Expansion Space and that obtaining the same shall be Tenant's responsibility; provided, however, that Landlord shall cooperate with Tenant in executing permit applications and performing other ministerial acts reasonably necessary to enable Tenant to obtain any such permit or certificate of occupancy. No material changes,

modifications or alterations in the Approved Working Drawings may be made without the prior written consent of Landlord, which consent shall not be unreasonably with held.

SECTION 4

CONSTRUCTION OF THE TENANT IMPROVEMENTS

4.1 Tenant's Selection of Contractor and Tenant's Agents .

4.1.1 The Contractor . Tenant shall select and retain a general contractor to construct the Tenant Improvements that is reasonably approved by Landlord, which contractor shall thereafter be the " **Contractor** " hereunder. If Landlord fails to either approve or disapprove any proposed contractor within five (5) business days after delivery of request for approval, such contractor shall be deemed approved.

4.1.2 Tenant's Agents . Tenant shall provide Landlord with a list of all subcontractors, laborers, materialmen, and suppliers used by Tenant (such subcontractors, laborers, materialmen, and suppliers, and the Contractor to be known collectively as " **Tenant's Agents** "). Tenant's Agents shall be union labor to the extent necessary to ensure compliance with the master labor agreements existing between trade unions and the local chapter of the Associated General Contractors of America. In any event, Landlord shall have the right to approve any subcontractors for any mechanical, electrical, plumbing, life safety, structural, and HVAC work in the Expansion Space, which approval shall not be unreasonably withheld. If Landlord fails to either approve or disapprove any proposed subcontractors within five (5) business days after written request, such subcontractors shall be deemed approved.

4.2 Construction of Tenant Improvements by Tenant's Agents .

4.2.1 Construction Contract; Cost Budget . Prior to Tenant's execution of the construction contract and general conditions with Contractor (the " **Contract** "), Tenant shall provide a copy of the Contract to Landlord. Prior to the commencement of the construction of the Tenant Improvements, and after Tenant has accepted all bids for the Tenant Improvements, Tenant shall provide Landlord with a written detailed cost breakdown (the " **Final Costs Statement** "), by trade, of the final costs to be incurred, or which have been incurred, as set forth more particularly in Section 2.2.1.1 through 2.2.1.8 above, in connection with the design, permitting and construction of the Tenant Improvements to be performed by or at the direction of Tenant or the Contractor (which costs form a basis for the amount of the Contract, if any (the " **Final Costs** "). As used herein, the term " **Over-Allowance Amount** " shall mean that amount by which the Final Costs exceed the Tenant Improvement Allowance.

4.2.2 Tenant's Agents .

4.2.2.1 Landlord's General Conditions for Tenant's Agents and Tenant Improvement Work . Tenant's and Tenant's Agents' construction of the Tenant Improvements shall comply with the following: (i) the Tenant Improvements shall be constructed in accordance with the Approved Working Drawings; (ii) Tenant's Agents shall submit schedules of all work relating to the Tenant's Improvements to Contractor and Contractor shall, within five (5) business days after Tenant's receipt thereof, inform Tenant's Agents of any changes which are necessary thereto,

and Tenant's Agents shall adhere to such corrected schedule; and (iii) Tenant shall abide by all reasonable rules made by Landlord's Building contractor or Landlord's Building manager, and provided to Tenant, with respect to the use of freight, loading dock and service elevators, storage of mate rials, coordination of work with the contractors of other tenants, and any other matter in connection with this Tenant Work Letter, including, without limitation, the construction of the Tenant Improvements. Tenant acknowledges and agrees that Landlord wi ll be constructing the Vertical Exhaust in the Building during Tenant's construction of the Tenant Improvements. Tenant and Tenant's Agents shall use commercially reasonable efforts to not interfere with, obstruct, or delay the work of Landlord's base bui lding contractor and subcontractors with respect to such Vertical Exhaust work.

4.2.2.2 Coordination Fee . Tenant shall pay a logistical coordination fee (the " **Coordination Fee** ") to Landlord in an amount equal to the product of (i) one percent (1%), and (ii) the sum of the Allowances actually disbursed by Landlord under this Tenant Work Letter, which Coordination Fee shall be for services relating to the coordination of the construction of the Tenant Improvements and shall be deducted by Landlord from the Allowances.

4.2.2.3 Indemnity . Tenant's indemnity of Landlord as set forth in the Lease shall also apply with respect to any and all costs, losses, damages, injuries and liabilities related in any way to any act or omission of Tenant or Tenant's Agents, or anyone directly or indirectly employed by any of them, or in connection with Tenant's non-payment of any amount arising out of the Tenant Improvements.

4.2.2.4 Insurance Requirements .

4.2.2.4.1 General Coverages . All of Tenant's Agents shall carry worker's compensation insurance covering all of their respective employees, and shall also carry public liability insurance, including property damage, all with limits, in form and with companies as are required to be carried by Tenant as set forth in the Lease except that the Commercial General Liability Insurance limits shall be as follows:

Bodily Injury and Property Damage Liability	$2,000,000 each occurrence $2,000,000 annual aggregate
Personal Injury Liability	$2,000,000 each occurrence $2,000,000 annual aggregate 0% Insured's participation

4.2.2.4.2 Special Coverages . Tenant shall carry " **Builder's All Risk** " insurance in an amount equal to the full replacement cost of the improvements being constructed by Tenant, and such other insurance as Landlord may reasonably require, it being understood and agreed that the Tenant Improvements shall be insured by Tenant pursuant to the Lease immediately upon completion thereof. Such insurance shall be in amounts and shall include such extended coverage endorsements as may be reasonably required by Landlord, and in form and with companies as are required to be carried by Tenant as set forth in the Lease.

4.2.2.4.3 General Terms. Certificates for all insurance carried pursuant to this Section 4.2.2.4 shal l be delivered to Landlord before the commencement of construction of the Tenant Improvements and before the Contractor's equipment is moved onto the site. All such policies of insurance must contain a provision that the company writing said policy will g ive Landlord thirty (30) days prior written notice of any cancellation or lapse of the effective date or any reduction in the amounts of such insurance. If the Tenant Improvements are damaged by any cause during the course of the construction thereof, Ten ant shall immediately repair the same at Tenant's sole cost and expense. All policies carried under this Section 4.2.2.4 shall insure Landlord and Tenant, as their interests may appear, as well as Contractor and Tenant's Agents, and shall name as addition al insureds Landlord's property manager, Landlord's asset manager, and all mortgagees and ground lessors of the Building and any other parties, all to the extend specified by Landlord in writing. All insurance, except Workers' Compensation, maintained by Tenant's Agents shall preclude subrogation claims by the insurer against anyone insured thereunder. Such insurance shall provide that it is primary insurance as respects the owner and that any other insurance maintained by owner is excess and noncontribut ing with the insurance required hereunder. The requirements for the foregoing insurance shall not derogate from the provisions for indemnification of Landlord by Tenant under Section 4.2.2.3 of this Tenant Work Letter.

4.2.3 Governmental Compliance. The Tenant Improvements shall comply in all respects with the following: (i) applicable state, federal, city or quasi-governmental laws, codes, ordinances and regulations, as each may apply according to the rulings of the controlling public official, agent or other person; (ii) applicable standards of the American Insurance Association (formerly, the National Board of Fire Underwriters) and the National Electrical Code; and (iii) building material manufacturer's specifications.

4.2.4 Inspection by Landlord. Upon at least one (1) business days' notice to Tenant, Landlord shall have the right to inspect the Tenant Improvements during regular business hours, provided however, that Landlord's failure to inspect the Tenant Improvements shall in no event constitute a waiver of any of Landlord's rights hereunder nor shall Landlord's inspection of the Tenant Improvements constitute Landlord's approval of the same. Should Landlord determine that any portion of the Tenant Improvements is in breach of the terms of this Tenant Work Letter, Landlord shall notify Tenant in writing of such breach and shall specify the relevant items. Any such breaches shall be rectified by Tenant at no expense to Landlord, provided however, that if Landlord reasonably determines that a breach exists in connection with any portion of the Tenant Improvements and such breach might adversely affect the mechanical, electrical, plumbing, HVAC or life-safety systems of the Building, the structure or exterior appearance of the Building or any other tenant's use of such other tenant's leased premises, Landlord may take such action as Landlord deems reasonably necessary, at Tenant's expense and without incurring any liability on Landlord's part, to correct any such breach, including, without limitation, causing the cessation of performance of the construction of the Tenant Improvements until such time as the breach is corrected.

4.2.5 Meetings. Tenant shall provide Landlord with prior written notice of any regularly scheduled meetings Tenant will have with the Architect and the Contractor regarding the progress of the preparation of Construction Drawings and the construction of the Tenant Improvements and Landlord shall have the right to attend all such regularly scheduled meetings.

In addition, minutes shall be taken at all such regularly scheduled meetings, a copy of which minutes shall be promptly delivered to Landlord.

4.3 Notice of Completion; Copy of "As Built" Plans. Within ten (10) days after completion of construction of the Tenant Improvements, Tenant shall cause a Notice of Completion to be recorded in the office of the Recorder of the County in which the Building is located in accordance with Section 3093 of the Civil Code of the State of California or any successor statute, and shall furnish a copy thereof to Landlord upon such recordation. If Tenant fails to do so, Landlord may execute and file the same on behalf of Tenant as Tenant's agent for such purpose, at Tenant's sole cost and expense. At the conclusion of construction, (i) Tenant shall cause the Architect and Contractor (A) to update the Approved Working Drawings as necessary to reflect all changes made to the Approved Working Drawings during the course of construction, (B) to certify to the best of their knowledge that the "record-set" of as-built drawings are true and correct, which certification shall survive the expiration or termination of the Lease, (C) to deliver to Landlord two (2) sets of sepias of such as-built drawings within ninety (90) days following issuance of a certificate of occupancy for the Expansion Space, and (D) to deliver to Landlord a computer disk containing the Approved Working Drawings in AutoCAD format, and (ii) Tenant shall deliver to Landlord a copy of all warranties, guaranties, and operating manuals and information relating to the improvements, equipment, and systems in the Expansion Space.

4.4 Coordination by Tenant's Agents with Landlord. Upon Tenant's delivery of the Contract to Landlord under Section 4.2.1 of this Tenant Work Letter, Tenant shall furnish Landlord with a schedule setting forth the projected date of the completion of the Tenant Improvements and showing the critical time deadlines for each phase, item or trade relating to the construction of the Tenant Improvements.

SECTION 5

MISCELLANEOUS

5.1 Tenant's Representative. Tenant has designated Tobin Schilke as its sole representative with respect to the matters set forth in this Tenant Work Letter, who, until further written notice from Tenant, shall have full authority and responsibility to act on behalf of the Tenant as required in this Tenant Work Letter.

5.2 Landlord's Representative. Landlord has designated Evan Gutenberg as its sole representative with respect to the matters set forth in this Tenant Work Letter, who, until further notice to Tenant, shall have full authority and responsibility to act on behalf of the Landlord as required in this Tenant Work Letter.

5.3 Time of the Essence in This Tenant Work Letter. Unless otherwise indicated, all references herein to a "number of days" shall mean and refer to calendar days. If any item requiring approval is timely disapproved by Landlord, the procedure for preparation of the document and approval thereof shall be repeated until the document is approved by Landlord.

5.4 Tenant's Lease Default. Notwithstanding any provision to the contrary contained in the Lease, if an Event of Default by Tenant under this Tenant Work Letter or the Lease has occurred at any time on or before the substantial completion of the Expansion Space, then (i) in

addition to all other rights and remedies granted to Landlord pursuant to the Lease, at law and/or in equity, Landlord shall have the right to withhold payment of all or any portion of the Allowances, and (ii) all other obligations of Landlord to provid e the Tenant Improvement Allowance (and the Additional Allowance, if applicable) under the terms of this Tenant Work Letter shall be forgiven until such time as such default is cured pursuant to the terms of the Lease. In addition, if the Lease is termina ted prior to the applicable Expansion Commencement Date, for any reason due to an Event of Default by Tenant as described in Section 19.1 of the Original Lease or under this Tenant Work Letter, in addition to any other remedies available to Landlord under the Lease, at law and/or in equity, Tenant shall pay to Landlord, as Additional Rent under the Lease, within five (5) business days after Tenant's receipt of a statement therefor, any and all costs (if any) incurred by Landlord (including any portion of th e Allowances disbursed by Landlord) and not reimbursed or otherwise paid by Tenant through the date of such termination in connection with the Tenant Improvements to the extent planned, installed and/or constructed as of such date of termination, including , but not limited to, any costs related to the removal of all or any portion of the Tenant Improvements and restoration costs related thereto.

SCHEDULE 1

SPECIFICATIONS

1.0 PARTITIONS

1.1 DEMISING WALL - ONE HOUR FIRE RESISTIVE CONSTRUCTION

One Hour Fire Resistive Wall will be constructed to demise tenant spaces with 3 5/8" x 20 gauge metal studs at 16" O.C. Wall is to extend full height from floor to underside of structure above with 5/8" Type "X" gypsum wallboard on each side of studs. Gypsum wallboard shall be taped and finished with joint compound to a Level 4 finish, with the stud cavity filled with sound attenuation insulation to achieve a minimum STC of 49.

1.2 INTERIOR PARTITIONS

Interior partitions will be constructed with 3 5/8" x 20 gauge metal studs at 16" O.C. Walls are to extend 6" above adjacent ceilings with 5/8" gypsum wallboard placed on each side of studs. Gypsum wallboard shall be taped and finished with joint compound to a Level 4 finish, with the stud cavity being filled with sound attenuation insulation in partitions between offices and conference rooms. Where no ceilings occur, partitions to extend full height to underside of structure above.

2.0 WOOD DOORS AND FRAMES

2.1 SUITE ENTRY DOORS

2.1.1 Main suite entry doors (if main entry is from elev. lobby) are to be 60 minute rated, 1 ¾" x 3'-0" x 8'-0" Solid core, plain sliced walnut, finish: Marshfield Doors clear 0-95 or equivalent.

2.1.2 Other suite entry doors are to be 60 minute rated, 1 ¾" x 3'-0" x 8'-0" Solid core, plain sliced walnut, finish: Marshfield Doors clear 0-95 or equivalent.

2.2 INTERIOR DOORS

2.2.1 Office and Conference Room Doors are to be 1 ¾" x 3'-0" x 8'-0" solid core, plain sliced walnut, finish: Marshfield Doors clear 0-95 or equivalent.

2.2.2 Common Area and Support Room Doors are to be 1 ¾" x 3'-0" x 8'-0" solid core, plain sliced walnut, finish: MARSHFIELD DOORS CLEAR 0-95 OR EQUIVALENT.

2.2.3 Laboratory Doors are to be 60 minute rated where required, non-rated elsewhere, 1 ¾" x 3'-0" x 8'-0". Solid core, plain sliced walnut, finish: MARSHFIELD DOORS CLEAR 0-95 OR EQUIVALENT. Each lab will have a pair of doors for large equipment access. Doors are to be a half-lite vision panel consisting of ¼" thick tempered safety glass. Armor plates and kick plates will be provided on Lab doors at appropriate locations.

2.2.4 Lab Support Doors, where provided, are to be 60 minute rated as required, non-rated elsewhere, 1 ¾" x 3'-6" x 8'-0". Solid core, plain sliced walnut, finish: MARSHFIELD DOORS CLEAR 0-95 OR EQUIVALENT. Doors are to be a half-lite vision panel consisting of ¼" thick tempered safety glass. Armor plates and kick plates will be provided on Lab Support Doors at appropriate locations.

2.3 DOOR/WINDOW FRAMES

2.3.1 Door frames will be extruded aluminum alloy as manufactured by Western Integrated Materials Inc. Frames will be pre-punched for factory installed 14-gauge butt reinforcement, door strike, and closer hardware. Prefinished frame color to be: CLEAR ANODIZED ALUMINUM .

2.3.2 Rated doors and frames shall be as required by code, with label ratings for smoke and fire resistance meeting the requirements established by the Underwriters Laboratory (UL). Doors will include smoke seals. Door frames will be extruded aluminum alloy as manufactured by Western Integrated Materials Inc. Frames will be pre-punched for factory installed 14-gauge butt reinforcement, door strike, and closer hardware. Prefinished frame color to be: Clear anodized aluminum.

2.4 FINISH HARDWARE

2.4.1SUITE ENTRY

For solid core wood doors:
Hinges: 4-1/2" X 4-1/2" Hager AB700 Full Mortise Hinge, Finish: ANSI A8112 steel with steel pin.
Office entry lock set: MORTISE LEVER SCHLAGE L SERIES, L9453 03A, FINISH : 625
Closers: Yale
One wall bumper: Hager 236W, Finish: US26D Chromium plated, dull.

2.4.2 INTERIOR DOORS

For solid core wood doors:
Hinges: 4-1/2" X 4-1/2" Hagar AB700 Full Mortise Hinge, Finish: ANSI A8112 Steel with steel pin
Passage Set : Schlage L Series Mortise L9010 03A Finish: 625
One wall bumper: Hager 236W, Finish: US26D Chromium plated dull

3.0 CEILINGS

3.1 ACOUSTICAL CEILINGS

Ceilings will be 2" x 2" x ¾" Armstrong, Ultima Tegular Fine Texture, Color: White. Glass-fiber based panels to be Type IV mineral based with membrane-faced overlay; form 2, water felted with vinyl overlay on face and back of panel. Performance characteristics to meet the following:

a. LR: Not less than 0.90.
b. NRC: Not less than 0.70.

Acoustical panels are treated with manufacturer's standard antimicrobial formulation that inhibits fungus, mold, mildew, and gram-positive and gram-negative bacteria.

Suspension system: Armstrong Silhouette Narrow 9/16" with ¼" reveal; Color: White.

3.2 VINYL-FACED CEILINGS

Ceilings will be 2" x 4" x ½" Certainteed Saint-Gobain , Vinylrock (#1140 CRF-1), Color: White. Vinyl-faced panels shall be Type XX; high density, ceramic and mineral base panels with scrubbable finish, resistant to heat, moisture, and corrosive fumes.

Suspension system: Certainteed Saint-Gobain 15/16" trim edge (square); Color: White

3.3 GYPSUM WALLBOARD SOFFITS-SUITE LOBBY AND BREAK AREA

Gypsum wallboard soffits will be constructed with 3 5/8" x 20 gauge metal studs at 16" O.C., with 5/8" gypsum wallboard placed on exterior side of studs. Gypsum wallboard shall be taped and finished with joint compound to a Level 4 finish. Soffits

4.0 LIGHTING FIXTURES

4.1 Office and Lab area light fixtures shall be min. 6" wide recessed linear LED type by Finelite or equivalent.

4.2 Lab Support rooms shall have recessed 2'x4' LED troffers.

4.3 All lighting shall have Title 24 compliant lighting controls and sensors.

5.0 ELECTRICAL SWITCHES AND OUTLET COVER PLATES

5.1 Electrical cover plates shall be Decora Leviton #5325, Color: white.

5.2 Motion sensor Light switch and cover plates shall be Advanced Central Technologies Color: White.

5.3 Light Switch Decora Leviton #5601

6.0 FINISHES

6.1 CARPET

a. Manufacturers: Tandus-Centiva or architect's approved equivalent
b. Product Size: 6' Roll Power-bond or 24" x 24" carpet tile
c. Backing: Per manufacturer's recommendation
d. Face Weight: 20 oz./sq. yd.
e. Pile Height Average: 0.187 inch
f. Fiber System: Dynex SD Nylon (Permanent Stain Resistance)
g. Soil/Stain Protection: Ensure

6.2 CERAMIC TILE

a. Manufacturers:
   1. Fiandre
   2. Ergon
   3. Emil Ceramica
   4. American Olean
   5. Or architect approved equivalent
b. Composition: Vitreous or impervious natural clay or porcelain
c. Face Size: Per Drawings
d. Face Size Variation: Calibrated or rectified
e. Thickness: Manufacturers standard
f. Dynamic Coefficient of Friction: Not less than 0.42.

g. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoini ng flat tile. Architect to select from manufacturer's full range.

6.3 VINYL COMPOSITION TILE

a. Manufacturers:
   1. Armstrong World Industries, Inc.
   2. Johnsonite (Tarkett Group)
   3. Mannington Commercial
b. Tile Standard: ASTM F 1066, Class 1, solid-color
c. Thickness: 0.125 inches
d. Size: 12 by 12 inches

6.4 LUXURY VINYL TILE

a. Manufacturers:
   1. Tandus-Centiva
   2. Johnsonite (Tarkett Group)
   3. Mannington Commercial
b. Tile Standard: ASTM F 1700, Class 3, Type B
c. Thickness: 0.100 to 0.120 inches
d. Size: As indicated on drawings

6.5 BASE

a. Manufacturers:
   1. Armstrong World Industries, Inc.
   2. Johnsonite (Tarkett Group)
   3. VPI Corporation
b. Product Standard: ASTM F 1861, Type TP (rubber, thermoplastic).
   1. Group: I (solid, homogeneous).
   2. Style and Location: As indicated.
c. Thickness: 0.125 inch
d. Height: 4" high
e. Lengths: Coils in manufacturer's standard length. Pre-cut lengths are not acceptable.
f. Outside Corners: Job formed or preformed.
g. Inside Corners: Job formed or preformed.

6.6 PAINT

All walls will receive (2) coats of Sherwin Williams, Eggshell Finish; Color: As indicated on drawings. Designated walls shall receive accent paints, choice of Sherwin Williams, Eggshell Finish, Color: As indicated on drawings.

All ceilings and open to structure areas to receive (2) coats of Sherwin Williams, Flat Finish; Color: As indicated on drawings.

7.0 WINDOW TREATMENT

7.1 Exterior Window Shades, where provided, will be manual-type roller shades by Mechoshade in recessed factory housing. Shade Material shall be Thermoveil 1500, Color: 1504 Black/Brown; Density: 3% Open.

8.0 MISCELLANEOUS

8.1 SIGNAGE

One building standard suite number and name plaque per entry door. Restroom signage.

8.2 ILLUMINATED EXIT SIGNS

Lithonia (or Isolite equal) ceiling mounted illuminated Edge Lit Series with single face universal mount, with universal arrows & green letters.

9.0 ELECTRICAL

9.1 Tenant shall receive building standard 120V 20 amp electrical distribution to office areas of the suite from the building's main electrical room. Each office will have (2) duplex electrical outlets and (2) mud box with ring and string for tenants own tel/data installation. Labs will receive standards 120V power and specialty voltage power as required for lab equipment.

10.0 HVAC

10.1 Heating and Cooling will be provided by a heating hot water boiler and a cooling tower, all placed on the roof.

10.2 Air Handling to the labs will be provided by new packaged units supplying 100% outside air with new VAV supply and exhaust boxes with minimum of 8 air changes per hour.

10.3 Air handling to the office areas will be provided by existing packaged units with new VAV supply boxes.

11.0 BREAKROOM CABINETRY WITH PLUMBING

11.1 Tenant allowance is 6 lineal feet of plastic laminate base cabinet with 6" drawers and doors, with 6 lineal feet of 12" deep by 36" high upper cabinets with doors. Sink is to be single bowl stainless steel, top mount, 6 ½ "max deep, 20 gauge, with a single lever faucet Moen Chateau 7425. Plastic laminated base and uppers: Wilsonart, Designer white #D354-01 (gloss finish). Provide PVC edge banding (0.018 to match plastic laminate) Solid surface counter tops and splash: Livingstone L104 Brisk.

12.0 LABORATORY CASEWORK AND FUME HOODS

12.1 Casework: Labs will be furnished with modular, mobile metal laboratory casework manufactured by iLab, Inc. Countertops will be chemical resistant epoxy/phenolic resin. Island benches shall be pre-piped for Compressed Air and Lab Vacuum with quick disconnect connections located above the ceiling. Benches with sinks will have a single basin epoxy sink (21" x 15" x 10" deep). Sink cabinets shall have a hot and cold water mixing faucet with a counter mounted eyewash. Sinks at island benches will have a stainless steel glassware pegboard with drip tray and drain hose. Benches will be pre-wired with factory installed single channel raceways for power. Receptacles will be GFI and color coded for normal (grey) and emergency (red) power uses.

12.2 Fume Hoods: Fume Hoods will be 6' wide, bench top hoods with a combination sash. Hoods will be factory pre-piped and pre-wired for Vacuum, Compressed Air and normal power with all services on each fume hood post. Hoods shall be UL 1805 listed and provide a minimum of 100 FPM exhaust with the sash in any position. Hoods will also be provided with self-closing acid and flammable storage cabinet bases.

NOTES:

1. Each prospective build-out, including but not limited to electrical, mechanical and plumbing design shall be reviewed and verified prior to commencement of Construction Documents and is subject to Landlord's review and approval.

2. Upgraded items beyond Building Standards include, but are not limited to, the following:

    1. Cabinetry beyond 6 lineal feet standard
    2. Upgraded Carpet.
    3. Interior Windows (beyond approved side light window)
    4. Gypsum Board Ceilings
    5. Plumbing, beyond single bowl standard
    6. Architectural Features (i.e. Light Soffit, Curved Walls, etc., not shown on spec plan)
    7. Wallcoverings
    8. Dedicated or Higher Voltage Electrical Outlets
    9. 24 Hour Cooling
    10. Interior design and drawings for above noted upgrades
    11. Customized lab design

3. The following items are responsibility of the Tenant and are excluded from the Owner's scope of work to be provided:

1. Security/Access Control within the Tenant Suite.
2. Signage beyond Code required egress signage.
3. Audio/Visual systems
4. Data distribution within the Tenant Suite
5. Server Room HVAC / Dedicated system
6. UPS systems for Tenant Equipment.

SCHEDULE 2

ADDITIONAL DISBURSEMENT BACKUP INFORMATION TO BE PROVIDED BY TENANT

- General Contractor G702/703 - original signed and notarized
- Subcontractor G702/703 or equivalent for each sub (Copies of signed & notarized)
- Copies of executed Change Orders or executed Schedule of Values (" **SOV** ") change authorizations (pre GMP)
- Unconditional Lien Releases from GC and Subs for prior payment (Civil Code § 8134)
- Conditional Lien Releases from GC and Subs for payment request (Civil Code § 8132)
- Releases from suppliers of materials or equipment of any purchase money security interests
- Stored Material Inventory with appropriate backup (bills of sale, evidence of insurance {with Owner as Certificate Holder and standard additional insureds}, confirmation of location, Affidavit, etc.)
- Change Order Log (need to include all pending change orders and status tracking)

– Clarification of self-performed vs. subcontracted work

- Job Cost Activity or similar tracking of GC general conditions costs
- List of all subcontractors
- List of contracts/subcontracts entered into since the last request
- Changes to SOV Values must be authorized by Owner either through an executed Change Order or an executed letter of authorization (pre GMP). Payapps submitted with unauthorized SOV changes on G703's will not be accepted.

The General Contractor shall provide all items to Landlord's Representative directly.

EXHIBIT C

ADDITIONAL CONTROL AREA AND HAZMAT STORAGE SPACES

ONE TOWER PLACE – FIRST LEVEL STORAGE AREA PLAN

ONE TOWER PLACE – SECOND LEVEL HAZMAT STORAGE AREA PLAN

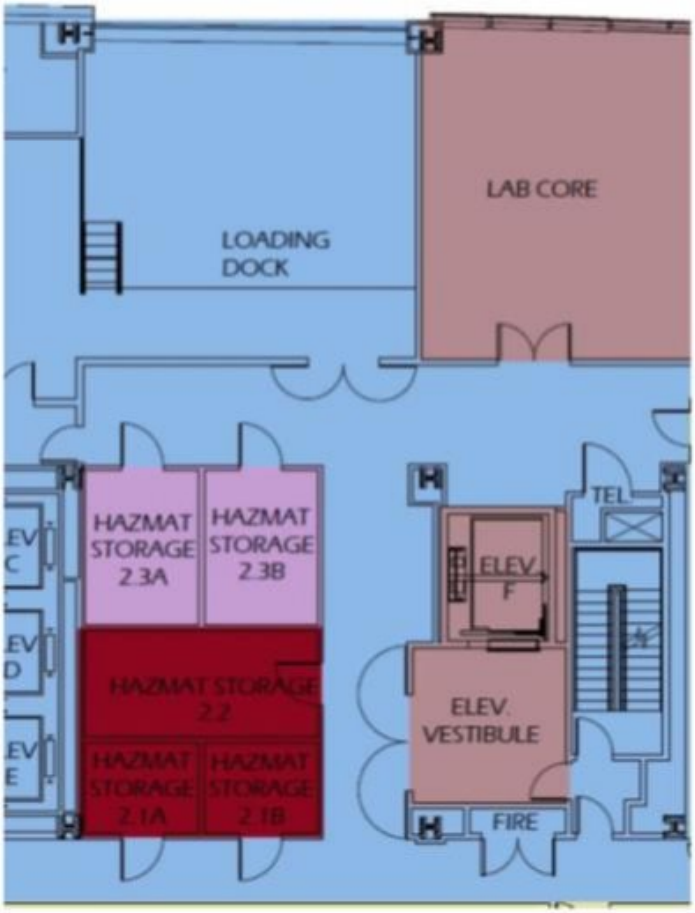

EXHIBIT D

MONUMENT SIGN LOCATION

Exhibit 10.3

THIRD AMENDMENT TO LEASE

This THIRD AMENDMENT TO LEASE **("Third Amendment")** is made and entered effective as of August 17, 2017, by and between AP3-SF2 CT SOUTH LLC, a Delaware limited liability company **("Landlord")** and ACHAOGEN, INC., a Delaware corporation **("Tenant")** .

R E C I T A L S

A. Landlord and Tenant entered into that certain Lease dated as of August 12, 2016 (the **"Original Lease"**), as amended by the First Amendment to Lease dated April 7, 2017 (**"First Amendment"**) and that certain Second Amendment to Lease dated as of July 20, 2017 (**"Second Amendment"**) **,** pursuant to which Landlord leased to Tenant and Tenant leased from Landlord certain "Premises", as described in the Lease, in that certain building located at One Tower Place, South San Francisco, California 94080.

B. Except as otherwise set forth herein, all capitalized terms used in this Third Amendment shall have the same meaning as such terms have in the Lease.

C. Landlord and Tenant now desire to amend the Lease upon the terms and provisions contained herein.

D. The Original Lease, First Amendment, the Second Amendment and this Third Amendment shall hereinafter be referred to collectively as the **"Lease"** .

R E C I T A L S

NOW, THEREFORE, in consideration of the foregoing Recitals and the mutual covenants contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Additional Allowance: Amortization of Rent . Tenant hereby acknowledges that it has exercised its option for and received the funds associated with the Additional Allowance (as defined in the Tenant Work Letter attached to the Original Lease as Exhibit B, and specifically excluding the "Additional Allowance" as defined in the Tenant Work Letter attached to the Second Amendment as Exhibit B) in the total amount of $942,360.00 and that no Additional Allowance funds are available for Tenant's use under the Original Lease. In addition to the payment of monthly Base Rent, Tenant hereby agrees that the Additional Allowance funds shall be amortized over a One Hundred Twenty-Six (126) month period with interest imputed on the principal balance at the rate of nine percent (9%) per annum, for payment at the rate of $11,587.39 per month **("Additional Monthly Base Rent")** , commencing on September 1, 2017 (provided that the initial payment of Additional Monthly Base Rent due on September 1, 2017 shall be in the amount of $72,944.19 which consists of i) the accrued amount of Additional Monthly Base Rent from March 23, 2017 through August 31, 2017 which equals $61,356.80 and ii) the amount due for the month of September 2017 which equals $11,587.39), escalating by three and one-half percent (3.5%) annually on April 1st of each successive year and continuing through and including September 2027; provided, however, that Tenant shall, as provided in the Original Lease, continue to have the right to pay to Landlord the balance of the Additional Allowance by written notice to Landlord.

2. No Further Modification . Except as set forth in this Third Amendment, all the terms and provisions of the Lease shall remain unmodified and in full force and effect.

IN WITNESS WHEREOF, this Third Amendment has been executed as of the day and year first above written.

"Landlord":

AP3-SF2 CT SOUTH LLC,
a Delaware limited liability company

By: /s/ Michael Gerrity
Name: Michael Gerrity
Its: President

"Tenant":

ACHAOGEN, INC.,
a Delaware corporation

By: /s/ Tobin Schilke
Name: Tobin Schilke
Its: CFO

Exhibit 31.1

CERTIFICATION OF THE CHIEF EXECUTIVE OFFICER

PURSUANT TO

SECURITIES EXCHANGE ACT RULES 13A-14(A) AND 15D-14(A)

I, Kenneth J. Hillan, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Achaogen, 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 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 8, 2017

/s/ Kenneth J. Hillan

Kenneth J. Hillan
Chief Executive Officer
(principal executive officer)

Exhibit 31.2

CERTIFICATION OF THE CHIEF FINANCIAL OFFICER

PURSUANT TO

SECURITIES EXCHANGE ACT RULES 13A-14(A) AND 15D-14(A)

I, Tobin C. Schilke, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Achaogen, 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 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 8, 2017

/s/ Tobin C. Schilke

Tobin C. Schilke

Chief Financial Officer

(principal financial and accounting 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 of Achaogen, Inc. (the "Company") on Form 10-Q for the fiscal quarter ended September 30, 2017, as filed with the Securities and Exchange Commission (the "Report"), Kenneth J. Hillan, Chief Executive Officer of the Company, and Tobin C. Schilke, Chief Financial Officer of the Company, respectively, do each hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- The information in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 8, 2017

/s/ Kenneth J. Hillan

Kenneth J. Hillan
Chief Executive Officer
(principal executive officer)

/s/ Tobin C. Schilke

Tobin C. Schilke
Chief Financial Officer
(principal financial and accounting officer)