AmpliPhi Biosciences Corp
Form 10-Q
August 14, 2017

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended June 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: 001-37544

AMPLIPHI BIOSCIENCES CORPORATION

(Exact name of registrant as specified in its charter)

Washington	**91-1549568**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

3579 Valley Centre Drive, Suite 100	**92130**
San Diego, California	(Zip Code)
(Address of principal executive offices)	

Registrant's telephone number, including area code: **(858) 829-0829**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes x No ¨

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

Large accelerated filer ¨	Accelerated filer ¨
Non-accelerated filer ¨ (Do not check if a small reporting company)	Smaller reporting company x Emerging growth company x

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ¨ No x

The number of shares of the Registrant's Common Stock, par value $0.01 per share, outstanding at August 9, 2017 was 8,749,052.

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AmpliPhi Biosciences Corporation

Consolidated Balance Sheets

	June 30, 2017 **(Unaudited)**	December 31, 2016
Assets		
Current assets		
Cash and cash equivalents	$8,962,000	$ 5,711,000
Accounts receivable, net	-	12,000
Prepaid expenses and other current assets	282,000	590,000
Total current assets	9,244,000	6,313,000
Property and equipment, net	909,000	1,072,000
In process research and development	4,661,000	10,461,000
Acquired patents, net	292,000	307,000
Total assets	$15,106,000	$ 18,153,000
Liabilities, Series B redeemable convertible preferred stock and stockholders' equity		
Current liabilities		
Accounts payable and accrued expenses	$1,856,000	$ 1,617,000
Deferred revenue	58,000	-
Accrued compensation	1,072,000	895,000
Dividends payable	38,000	38,000
Insurance premium liability	81,000	185,000
Note payable	606,000	803,000
Total current liabilities	3,711,000	3,538,000
Derivative liabilities	387,000	2,443,000
Deferred tax liability	1,147,000	2,449,000
Total liabilities	5,245,000	8,430,000
Series B redeemable convertible preferred stock $0.01 par value; no shares authorized at June 30, 2017 and December 31, 2016; no shares issued and outstanding at June 30, 2017 and December 31, 2016	-	-
Stockholders' equity		
Common stock, $0.01 par value; 67,000,000 shares authorized at June 30, 2017 and December 31, 2016; 8,549,152 and 1,648,751 shares issued and outstanding at June 30, 2017 and December 31, 2016, respectively	85,000	16,000
Additional paid-in capital	400,851,000	391,067,000
Accumulated deficit	(391,075,000)	(381,360,000)
Total stockholders' equity	9,861,000	9,723,000
Total liabilities, Series B redeemable convertible preferred stock and stockholders' equity	$15,106,000	$ 18,153,000

See accompanying condensed notes to consolidated financial statements.

AmpliPhi Biosciences Corporation

Consolidated Statements of Operations

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
	(Unaudited)	**(Unaudited)**	**(Unaudited)**	**(Unaudited)**
Revenue	$ 28,000	$ 103,000	$ 57,000	$ 209,000
Operating expenses				
Research and development	1,130,000	1,241,000	2,620,000	3,221,000
General and administrative	2,784,000	2,451,000	4,682,000	5,095,000
Impairment charges	5,800,000	-	5,800,000	-
Total operating expenses	9,714,000	3,692,000	13,102,000	8,316,000
Loss from operations	(9,686,000)	(3,589,000)	(13,045,000)	(8,107,000)
Other income (expense)				
Change in fair value of derivative liabilities	1,920,000	(35,000)	2,034,000	1,371,000
Other income (expense), net	3,000	(227,000)	2,000	(227,000)
Total other income (expense), net	1,923,000	(262,000)	2,036,000	1,144,000
Loss before income taxes	(7,763,000)	(3,851,000)	(11,009,000)	(6,963,000)
Income tax benefit	1,302,000	-	1,302,000	-
Net loss	(6,461,000)	(3,851,000)	(9,707,000)	(6,963,000)
Excess of fair value of consideration transferred on conversion of Series B redeemable convertible preferred stock	-	(2,366,000)	-	(2,366,000)
Accretion of Series B redeemable convertible preferred stock	-	(133,000)	-	(1,858,000)
Net loss attributable to common stockholders	$ (6,461,000)	$ (6,350,000)	$ (9,707,000)	$ (11,187,000)
Per share information:				
Net loss per share of common stock - basic	$ (1.21)	$ (7.26)	$ (2.76)	$ (15.30)
Weighted average number of shares of common stock outstanding - basic	5,350,930	874,062	3,514,181	731,206
Net loss per share of common stock - diluted	$ (1.46)	$ (7.82)	$ (3.09)	$ (15.96)
Weighted average number of shares of common stock outstanding - diluted	5,519,895	876,806	3,652,501	732,578

See accompanying condensed notes to consolidated financial statements.

AmpliPhi Biosciences Corporation

Consolidated Statements of Cash Flows

	Six Months Ended June 30,	
	2017 (Unaudited)	2016 (Unaudited)
Operating activities:		
Net loss	$(9,707,000)	$(6,963,000)
Adjustments required to reconcile net loss to net cash used in operating activities:		
Change in fair value of derivative liabilities	(2,034,000)	(1,371,000)
Impairment charges	5,800,000	-
Stock-based compensation	470,000	1,364,000
Deferred taxes	(1,302,000)	-
Warrants and other allocable expenses	-	431,000
Depreciation	170,000	158,000
Amortization of patents	15,000	15,000
Other non-cash adjustments, net	18,000	-
Changes in operating assets and liabilities:		
Accounts receivable, net	12,000	107,000
Accounts payable, accrued expenses, deferred revenue and other	(189,000)	509,000
Accrued compensation	177,000	(172,000)
Prepaid expenses and other current assets	340,000	(55,000)
Net cash used in operating activities	(6,230,000)	(5,977,000)
Investing activities:		
Purchases of property and equipment	(7,000)	(237,000)
Net cash used in investing activities	(7,000)	(237,000)
Financing activities:		
Costs of Series B redeemable convertible preferred stock conversion to common stock	-	(173,000)
Dividend payments	-	(63,000)
Proceeds from sale of common stock and related warrants, net of offering costs	9,690,000	4,224,000
Proceeds from stock issuance under employee stock purchase plan	3,000	-
Principal payment on note payable	(205,000)	-
Net cash provided by financing activities	9,488,000	3,988,000
Net increase (decrease) in cash and cash equivalents	3,251,000	(2,226,000)
Cash and cash equivalents, beginning of period	5,711,000	9,370,000
Cash and cash equivalents, end of period	$8,962,000	$7,144,000
Supplemental schedule of non-cash financing activities:		
Accretion of Series B redeemable convertible preferred stock	$-	$1,858,000
Fair value of warrant liability upon issuance	-	1,816,000
Offering costs included in accounts payable	339,000	-

See accompanying condensed notes to consolidated financial statements.

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AmpliPhi Biosciences Corporation

Condensed Notes to Consolidated Financial Statements

June 30, 2017
(Unaudited)

1. Organization and Description of the Business

AmpliPhi Biosciences Corporation (the "Company") was incorporated in the state of Washington in 1989 under the name Targeted Genetics Corporation. In February 2011, Targeted Genetics Corporation changed its name to AmpliPhi Biosciences Corporation. The Company is dedicated to developing novel antibacterial therapies called bacteriophage (phage). Phages are naturally occurring viruses that preferentially bind to and kill their bacterial targets.

2. Liquidity

The Company has prepared its consolidated financial statements on a going concern basis, which assumes that the Company will realize its assets and satisfy its liabilities in the normal course of business. However, the Company has incurred net losses since its inception and has negative operating cash flows. These circumstances raise substantial doubt about the Company's ability to continue as a going concern. The accompanying financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classifications of liabilities that may result from the outcome of the uncertainty concerning the Company's ability to continue as a going concern.

As of June 30, 2017, the Company had cash and cash equivalents of $9.0 million. In addition, the Company has filed an Australian tax return for the year 2016 and currently expects receipt of approximately $1.8 million in tax rebate incentive payments from the Australian tax authority in the third quarter of 2017, subject to review of the tax return by Australian tax authorities. There can be no assurance that the Company will receive such tax rebate when or in the amount currently anticipated, or at all.

Management has made operational changes that are expected to reduce cash expenditures in 2017 and support the Company's strategic emphasis on precisely targeted bacteriophage therapies. Considering the Company's current cash resources, management believes the Company's existing resources will be sufficient to fund the Company's planned operations until mid-2018. For the foreseeable future, the Company's ability to continue its operations is dependent upon its ability to obtain additional capital.

3. Significant Accounting Policies

The Company's significant accounting policies are described in Note 3 to the consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2016, filed with the Securities and Exchange Commission ("SEC"). Since the date of those financial statements, there have been no material changes to the Company's significant accounting policies. The interim consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries Biocontrol Limited, Ampliphi Biotehnološke Raziskave in Razvoj d.o.o., and AmpliPhi Australia Pty Ltd. All significant intercompany accounts and transactions have been eliminated.

Basis of Presentation

The accompanying unaudited consolidated financial statements of the Company should be read in conjunction with the audited financial statements and notes thereto as of and for the year ended December 31, 2016 included in the Company's Annual Report on Form 10-K, filed with the SEC. The accompanying financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP") for interim financial statements and in accordance with the instructions to Form 10-Q. Any reference in these notes to applicable guidance is meant to refer to authoritative U.S. GAAP as found in the Accounting Standards Codification ("ASC") and Accounting Standards Update ("ASU") of the Financial Accounting Standards Board ("FASB").

In the opinion of management, the accompanying consolidated financial statements include all adjustments that are of a normal and recurring nature and that are necessary for the fair presentation of the Company's financial position and the results of its operations and cash flows for the periods presented. Interim results are not necessarily indicative of results for the full year or any future period.

Reverse Stock Split

On April 21, 2017, the Company filed Articles of Amendment to Amended and Restated Articles of Incorporation with the Secretary of State of the State of Washington that effected a 1-for-10 (1:10) reverse stock split of its common stock, par value $0.01 per share, effective April 24, 2017. All common share, warrant, stock option, and per share information in the consolidated financial statements gives retroactive effect to the 1-for-10 reverse stock split that was effected on April 24, 2017. In connection with the reverse stock split, the Company adjusted its authorized common stock, from 670,000,000 to 67,000,000 shares. The par value of its common stock was unchanged at $0.01 per share, post-split. The Company adjusted stockholders' equity to reflect the reverse stock split by reclassifying an amount equal to the par value of the shares eliminated by the split from common stock to additional paid-in capital, resulting in no net impact to stockholders' equity on the consolidated balance sheets.

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Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in its consolidated financial statements and accompanying notes. On an ongoing basis, management evaluates these estimates and judgments, which are based on historical and anticipated results and trends and on various other assumptions that management believes to be reasonable under the circumstances. By their nature, estimates are subject to an inherent degree of uncertainty and, as such, actual results may differ from management's estimates.

In Process Research and Development

In Process Research & Development ("IPR&D") assets represent capitalized incomplete research projects that were acquired through business combinations. Such assets are initially measured at their acquisition date fair values, and accounted for as indefinite-lived intangible assets, subject to impairment testing until completion or abandonment of research and development efforts associated with the projects. Management periodically re-evaluates whether continuing to characterize the asset as indefinite-lived is appropriate.

Since December 31, 2016 and through the first quarter of 2017, the Company had IPR&D assets related to its Staph and Pseudomonas programs of $5.2 million and $5.3 million, respectively. Management assessed the qualitative indicators for impairment and noted no negative operational indicators for its research and development programs. However, as of June 30, 2017, the Company's market capitalization was approximately $6.7 million, well below the Company's carrying amount of net assets. As the Company's shares of common stock are publicly-traded, the market capitalization is an indicator of the fair value which is evaluated against the Company's net asset values. The significant excess of net asset value over market capitalization as of June 30, 2017 existed following the 1-for-10 reverse stock split completed in April 2017 and the receipt of $10.6 million in gross proceeds from an underwritten public offering in May 2017. In connection with the preparation and review of the Company's financial statements included in this report, management determined that the IPR&D assets were impaired as of June 30, 2017.

Based on the indicators above, the Company assessed the fair value of its IPR&D assets and determined an impairment charge of $5.8 million, off-set by a related income tax benefit of $1.3 million, was necessary in the second quarter of 2017. The impairment was due to an increase in the Company's discount rate as compared to previous assessments due to the significant difference between the Company's net assets and its market capitalization. The carrying amount of the Staph and Pseudomonas programs after the impairment charge was $2.8 million and $1.9 million, respectively. The impairment charge was included as a component of operating expense in the consolidated statements of operations for the three and six months ended June 30, 2017.

Accounting for Warrant and Preferred Shares Conversion and Dilutive Financing Features

Warrants and preferred shares conversion and dilutive financing features are accounted for in accordance with the applicable accounting guidance provided in ASC 815 - *Derivatives and Hedging* as either derivative liabilities or as equity instruments depending on the specific terms of the agreements. Liability-classified instruments are recorded at fair value at each reporting period with any change in fair value recognized as a component of change in fair value of derivative liabilities in the consolidated statements of operations (see Note 4).

Recent Accounting Pronouncements Not Yet Adopted

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*. The ASU creates a single source of revenue guidance for companies in all industries. The new standard provides guidance for all revenue arising from contracts with customers and affects all entities that enter into contracts to provide goods or services to their customers, unless the contracts are within the scope of other accounting standards. It also provides a model for the measurement and recognition of gains and losses on the sale of certain nonfinancial assets. This guidance, as amended, must be adopted using either a full retrospective approach for all periods presented or a modified retrospective approach and will be effective for fiscal years beginning after December 15, 2017 with early adoption permitted. The Company plans to adopt this ASU on January 1, 2018, and is in the process of evaluating the impact of adopting the guidance on its consolidated financial statements.

In February 2015, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*, which amends the FASB Accounting Standards Codification and creates Topic 842, "Leases." The new topic supersedes Topic 840, "Leases," and increases transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and requires disclosures of key information about leasing arrangements. The guidance is effective for reporting periods beginning after December 15, 2018. ASU 2016-02 mandates a modified retrospective transition method. The Company plans to adopt this ASU on January 1, 2019 and is in the process of evaluating the impact of adopting the guidance on its consolidated financial statements.

In August 2016, the FASB issued ASU No. 2016-15, *Cash Flow Statements, Classification of Certain Cash Receipts and Cash Payments*, which addresses eight specific cash flow classification issues with the objective of reducing diversity in practice. The amendments are effective for public business entities for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted. The adoption of this guidance is not expected to have a material impact on the Company's consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles - Goodwill and Other, Simplifying the Accounting for Goodwill Impairment*. ASU 2017-04 removes Step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. A goodwill impairment will now be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. All other goodwill impairment guidance will remain largely unchanged. Entities will continue to have the option to perform a qualitative assessment to determine if a quantitative impairment test is necessary. This new guidance will be applied prospectively, and is effective for calendar year end companies in 2020. Early adoption is permitted for any impairment tests performed after January 1, 2017. Adoption of this ASU is not expected to have a material impact on the Company's consolidated financial statements.

In July 2017, the FASB issued ASU No. 2017-11, which amends the FASB Accounting Standards Codification. Part I of ASU No. 2017-11, *Accounting for Certain Financial Instruments with Down Round Features*, changes the classification analysis of certain equity-linked financial instruments (or embedded features) with down round features. The guidance is effective for reporting periods beginning after December 15, 2019 and interim periods within those fiscal years. The Company is in the process of evaluating the impact of adopting the guidance on its consolidated financial statements.

Recently Adopted Accounting Standards

In August 2014, the FASB issued ASU No. 2014-15, *Presentation of Financial Statements - Going Concern (Subtopic 205-40): Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*, which defines management's responsibility to assess an entity's ability to continue as a going concern, and to provide related footnote disclosures if there is substantial doubt about its ability to continue as a going concern. The Company adopted this ASU as of December 31, 2016 and conformed its footnote disclosure in accordance with the disclosure requirements under this standard.

In November 2015, the FASB issued ASU No. 2015-17, *Balance Sheet Classification of Deferred Taxes*. The ASU is part of a simplification initiative aimed at reducing complexity in accounting standards. Current U.S. GAAP requires the deferred taxes for each jurisdiction (or tax-paying component of a jurisdiction) to be presented as a net current asset or liability and net noncurrent asset or liability. To simplify presentation, the new guidance requires that all deferred tax assets and liabilities, along with any related valuation allowance, be classified as noncurrent on the balance sheet. The Company adopted this ASU as of January 1, 2017 and the adoption did not have an impact on the Company's consolidated financial statements.

In March 2016, the FASB issued ASU No. 2016-09, *Compensation – Stock Compensation, (Topic 718)*. This ASU changes certain aspects of accounting for share-based payments to employees and involves several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as

either equity or liabilities, and classification on the statement of cash flows. Specifically, ASU 2016-09 requires that all income tax effects of share-based awards be recognized as income tax expense or benefit in the reporting period in which they occur. Additionally, ASU 2016-09 amends existing guidance to allow forfeitures of share-based awards to be recognized as they occur. Previous guidance required that share-based compensation expense include an estimate of forfeitures. The Company adopted this ASU as of January 1, 2017 and elected to account for forfeitures as they occur. The cumulative effect of adoption was made on a modified retrospective basis and resulted in an increase of $8,000 to both additional paid-in capital and accumulated deficit.

4. Fair Value Measurements

The guidance regarding fair value measurements prioritizes the inputs used in measuring fair value and establishes a three-tier value hierarchy that distinguishes among the following:

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

Liabilities are classified based on the lowest level of input that is significant to the fair value measurements. The Company has not transferred any liabilities between the classification levels.

The Company estimates fair values of derivative liabilities utilizing Level 3 inputs. The Company uses the Monte Carlo and Black-Scholes valuation models for derivatives which embodies all of the requisite assumptions (including trading volatility, remaining term to maturity, market price, strike price, risk-free rates) necessary to determine fair value of these instruments. The Company’s derivative liabilities are marked-to-market with the changes in fair value recorded as a component of change in fair value of derivative liabilities in the Company’s consolidated statements of operations. Estimating fair values of derivative liabilities requires the use of significant and subjective inputs that may, and are likely to, change over the duration of the instrument with related changes in internal and external market factors.

The recurring fair value measurements of the Company's derivative liabilities at June 30, 2017 and December 31, 2016 consisted of the following:

	Quoted Prices in Active Markets for Identical Items (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
June 30, 2017				
Liabilities				
June 2016 offering warrant liability	$ -	$ -	$ 29,000	$ 29,000
November 2016 offering warrant liability	-	-	358,000	358,000
Total liabilities	$ -	$ -	$ 387,000	$ 387,000
December 31, 2016				
Liabilities				
June 2016 offering warrant liability	$ -	$ -	$ 274,000	$ 274,000
Dilutive financing derivative liability	-	-	126,000	126,000
November 2016 offering warrant liability	-	-	2,043,000	2,043,000
Total liabilities	$ -	$ -	$ 2,443,000	$ 2,443,000

The following table sets forth a summary of changes in the fair value of the Company's derivative liabilities:

	June 2016 Offering Warrant Liability	Dilutive Financing Derivative Liability	November 2016 Offering Warrant Liability	Total Derivative Liabilities
Balance, December 31, 2016	$ 274,000	$ 126,000	$ 2,043,000	$ 2,443,000
Changes in estimated fair value	(245,000)	(104,000)	(1,685,000)	(2,034,000)
Settlement of liability	-	(22,000)	-	(22,000)
Balance, June 30, 2017	$ 29,000	$ -	$ 358,000	$ 387,000

In connection with an issuance of warrants exercisable for an aggregate of 106,383 shares of common stock in a registered public offering, the Company incurred the June 2016 offering warrant liability (see Note 7). The fair value of the June 2016 offering warrant liability on the date of issuance and on each re-measurement date was estimated using the Black-Scholes valuation model. This method of valuation involves using inputs such as the fair value of the Company's common stock, stock price volatility, risk–free interest rates and dividend yields. Due to the nature of these inputs, the valuation of the warrants is considered a Level 3 measurement. The assumptions used consisted of the following:

	June 30, 2017		December 31, 2016	
Volatility	129	%	118	%
Expected term (years)	3.93		4.42	
Risk-free interest rate	1.71	%	1.80	%
Dividend yield	0.00	%	0.00	%
Exercise price	$ 22.50		$ 22.50	
Common stock closing price	$ 0.78		$ 4.40	

In connection with an issuance of warrants exercisable for an aggregate of 533,500 shares of common stock in an underwritten public offering, the Company incurred the November 2016 offering warrant liability (see Note 7). The fair value of the November 2016 offering warrant liability on the date of issuance and on each re-measurement date was estimated using the Monte Carlo valuation model. This method of valuation involves using inputs such as the fair value of the Company's common stock, stock price volatility, contractual term of the warrants, risk–free interest rates and dividend yields. Due to the nature of these inputs, the valuation of the warrants is considered a Level 3 measurement. The assumptions used consisted of the following:

	June 30, 2017		December 31, 2016	
Volatility	115	%	112	%
Expected term (years)	4.39		4.89	
Risk-free interest rate	1.75	%	1.91	%
Dividend yield	0.00	%	0.00	%
Exercise price (1)	$ 1.00		$ 7.50	
Common stock closing price	$ 0.78		$ 4.40	

(1) In connection with the Company's April 2017 1-for-10 reverse stock split, the exercise price of the warrants was adjusted to $1.00 per share pursuant to terms of the warrant agreement. The exercise price of the warrants is subject to further adjustment upon future dilutive issuances of the Company's common stock including, but not limited to, the potential issuance of 523,210 shares of common stock to the shareholders who are party to the Common Stock Issuance Agreement (see Note 6). If the Company's shareholders approve such issuance at the 2017 annual meeting of shareholders, the exercise price of the warrants would be reduced to $0.57 per share.

Dilutive Financing Derivative Liability

The dilutive financing derivative liability was recorded on the accompanying balance sheet on April 8, 2016 in connection with the Company's entry into a Common Stock Issuance Agreement ("CSIA") with certain former holders of the Company's Series B redeemable convertible preferred stock. As of December 31, 2016, the maximum number of shares that the Company could issue under the rules of the NYSE MKT and the terms of the CSIA agreement was 28,684 shares. As of December 31, 2016, the dilutive financing liability was valued at $126,000 based on the closing market price of the Company's common stock of $4.40 per share multiplied by the 28,684 shares available to be issued. On June 27, 2017, the Company and the holders entered into an amendment to the CSIA (the "CSIA Amendment") under which the 28,684 common shares were issued to the holders on June 29, 2017 (see Note 6). This issuance removed the condition which required the dilutive financing to be treated as a derivative liability. Accordingly, the fair value of the shares were marked-to-market through June 29, 2017, at $22,000, and then reclassified from a liability to equity. The decrease in fair value of $104,000 was recorded as a component of change in fair value of derivative liabilities in the Company's consolidated statements of operations for the three and six months ended June 30, 2017.

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5. Net Loss per Common Share

The following table sets forth the computation of basic and diluted net loss per common share for the periods indicated:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Basic and diluted net loss per common share calculation:				
Net loss	$(6,461,000)	$(3,851,000)	$(9,707,000)	$(6,963,000)
Excess of fair value of consideration transferred on conversion of Series B redeemable convertible preferred stock	-	(2,366,000)	-	(2,366,000)
Accretion of Series B redeemable convertible preferred stock	-	(133,000)	-	(1,858,000)
Net loss attributable to common stockholders - basic	$(6,461,000)	$(6,350,000)	$(9,707,000)	$(11,187,000)
Changes in fair value of November 2016 warrants	(1,580,000)	-	(1,580,000)	-
Net loss attributable to common stockholders - diluted	$(8,041,000)	$(6,350,000)	$(11,287,000)	$(11,187,000)
Weighted average common shares outstanding - basic	5,350,930	874,062	3,514,181	731,206
Net loss per share of common stock - basic	$(1.21)	$(7.26)	$(2.76)	$(15.30)
Weighted average common shares outstanding - diluted	5,519,895	876,806	3,652,501	732,578
Net loss per share of common stock - diluted	$(1.46)	$(7.82)	$(3.09)	$(15.96)

The $1,580,000 change in fair value of November 2016 warrants for the three and six months ended June 30, 2017 included a gain from the reduction in fair value starting when the warrants were in the money as a result of the exercise price adjustment made in connection with the Company’s 1-for-10 reverse stock split in April 2017 (See Note 4).

The following outstanding securities at June 30, 2017 and 2016 have been excluded from the computation of diluted weighted average shares outstanding for the three and six months ended June 30, 2017 and 2016, as they would have been anti-dilutive:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Options	285,276	73,902	285,276	73,902
Warrants	8,442,670	137,964	8,442,670	137,964
Total	8,727,946	211,866	8,727,946	211,866

6. Redeemable Convertible Preferred Stock

On June 13, 2013, the Company's Board of Directors approved a resolution designating 9,357,935 shares of Preferred Stock as Series B redeemable convertible preferred stock ("Series B") with an initial stated value of $1.40 and par value of $0.01 per share. The Series B shares were subject to automatic conversion into common stock upon the election of the holders of at least two-thirds of the outstanding Series B shares. Holders of the Series B shares were entitled to receive cumulative, cash dividends at the rate of 10% of the Series B stated value. The Series B shares were redeemable by the Company at any time on or after June 26, 2018, upon the election of the holders of at least two-thirds of the outstanding Series B shares for an amount equal to the original issue price per share plus any accrued and unpaid dividends.

On April 8, 2016, certain holders of over two-thirds of the Company's then-outstanding shares of the Series B shares elected to automatically convert all outstanding shares of Series B into shares of common stock in accordance with the Company's Amended and Restated Articles of Incorporation (the "Conversion"). The transaction was accounted for based on the difference between the fair value of the consideration transferred to the holders of the preferred stock and the carrying amount of the preferred stock on April 7, 2016. As a result of the Conversion, the 7,527,853 shares of Series B outstanding as of immediately prior to the Conversion were converted into an aggregate of 150,556 shares of common stock. From December 31, 2015 to April 7, 2016, the Company had accreted $1,858,000 from additional paid-in capital to Series B shares to adjust the redemption value of the Series B. The June 30, 2017 consolidated balance sheet reflects dividends payable of $38,000 to former holders of the Series B, which are classified as current liabilities.

Common Stock Issuance Agreement

On April 8, 2016, the Company entered into the Common Stock Issuance Agreement ("CSIA") with certain former holders of the Company's Series B (the "Holders") pursuant to which the Company agreed to issue a formula-based number of shares of its common stock to the Holders for no additional consideration upon completion of one or more bona fide equity financings in which the Company sells shares of its common stock below a specified price (a "Dilutive Issuance") in a transaction that occurs prior to the earlier of June 30, 2018 or such time as the Company has raised, following the date of the CSIA, $10.0 million in the aggregate (the "Price Protection Obligations"). In each of June 2016, November 2016 and May 2017, the Company completed offerings of its common stock that constituted Dilutive Issuances under the CSIA. The Company issued 75,020 shares under the Price Protection Obligations subsequent to the June 2016 financing. Due in part to limitations on the number of shares issuable to the Holders under the rules of the NYSE MKT, no additional shares of common stock were issued to the holders in connection with the November 2016 and May 2017 offerings prior to June 2017 as discussed below.

On June 27, 2017, the Company and the Holders entered into the CSIA Amendment to, among other things, terminate the Price Protection Obligations. In consideration for the termination for the Price Protection Obligations and a release of claims by the Holders, the Company agreed to (i) issue to the Holders, within five business days of the Amendment, an aggregate of 28,684 shares of its common stock (the "First Issuance"), which, under the rules of the NYSE MKT, was the maximum number of shares the Company was permitted to issue to the Holders pursuant to the CSIA without further shareholder approval, and (ii) issue to the Holders in a subsequent closing an aggregate 523,210 shares of common stock (the "Second Issuance"), subject to obtaining shareholder approval of the Second Issuance at the Company's 2017 Annual Meeting of Shareholders and the Company's receipt of a release of claims from the Holders at the time of the Second Issuance. In connection with the Second Issuance, the Company recorded a liability of $408,000 which has been included as a component of accounts payable and accrued expenses in the consolidated balance sheet at June 30, 2017. The liability was valued based on the closing price of the Company's common stock of $0.78 per share at June 30, 2017 multiplied by the 523,210 shares of common stock to potentially be issued. The related charge of $408,000 was included as a component of general and administrative expense for the three and six months ended June 30, 2017.

7. Capital Stock and Warrants

Registered Public Offering of Common Stock and Warrants

On June 3, 2016, the Company completed a registered public offering of 212,766 shares of its common stock and warrants to purchase 106,383 shares of common stock. Each share of common stock was sold together with a warrant to purchase 0.50 of a share of common stock at a combined purchase price of $23.50 per unit, for aggregate gross proceeds to the Company of $5.0 million. The warrants have an exercise price of $22.50 per share, were exercisable

immediately upon issuance and expire five years following the date of issuance. The Company received net proceeds from the offering of approximately $4.2 million, after deducting placement agent fees and other offering expenses payable by the Company.

The Company has classified the warrants as a liability due to certain net cash settlement provisions in the warrant agreement. The derivative liability for the warrants was marked-to-market at $29,000 as of June 30, 2017, with the decrease in fair value of $245,000 recorded as a component of change in fair value of derivative liabilities in the Company's consolidated statement of operations (see Note 4) for the six months ended June 30, 2017.

Underwritten Public Offering of Common Stock and Warrants

On November 22, 2016, the Company completed an underwritten public offering of 533,500 shares of its common stock and warrants to purchase up to an aggregate of 533,500 shares of common stock. Each share of common stock was sold together with a warrant to purchase one share of common stock at a combined purchase price of $7.50 per unit, for aggregate gross proceeds to the Company of $4.0 million. The warrants originally had an exercise price of $7.50 per share, are exercisable immediately upon issuance and expire five years following the date of issuance. The Company received net proceeds from the offering of approximately $3.3 million, after deducting underwriting discounts and commissions and other offering expenses payable by the Company. In connection with the Company's April 2017 1-for-10 reverse stock split and a provision in the November 2016 warrants that required reduction of the exercise price following the reverse stock split to the lowest daily volume-weighted average price of the Company's common stock during the 15 trading days immediately following the reverse stock split, the exercise price of the warrants was adjusted to $1.00 per share. The exercise price of the warrants is subject to further adjustment upon future dilutive issuances of the Company's common stock including, but not limited to, the potential issuance of 523,210 shares of common stock to the shareholders who are party to the CSIA (see Note 6).

The Company has classified the warrants as a liability primarily because the warrants are not indexed to the Company's common stock due to an exercise price adjustment provision and the Company may be required to pay the warrant holders cash under certain circumstances. The derivative liability for the warrants was marked-to-market at $358,000 as of June 30, 2017, with the decrease in fair value of $1,685,000 recorded as a component of change in fair value of derivative liabilities in the Company's consolidated statement of operations (see Note 4) for the six months ended June 30, 2017.

Underwritten Public Offering of Common Stock, Pre-funded Warrants and Warrants

On May 10, 2017, the Company completed an underwritten public offering and sold 2,584,085 shares of its common stock and 4,483,334 pre-funded warrants to purchase common stock in lieu of additional shares of common stock, and common warrants to purchase 8,000,000 shares of common stock. The combined price to the public for each share of common stock and accompanying common warrant was $1.50. The combined price to the public for each pre-funded warrant and accompanying common warrant was $1.49. Each pre-funded warrant is exercisable for one share of common stock at an exercise price of $0.01 per share and 4,283,434 pre-funded warrants were exercised as of June 30, 2017. The common warrants are immediately exercisable at a price of $1.50 per share of common stock, and will expire five years from the date of issuance. The Company received net proceeds from the offering of $9.0 million, after deducting $1.6 million in offering costs including the underwriting discount and commissions, certain internal incentive payments and other offering expenses payable by the Company. The Company evaluated the pre-funded warrants and common warrants issued in the May 2017 offering and determined that the warrants should be classified as equity instruments.

Warrants

At June 30, 2017, outstanding warrants to purchase shares of common stock, accounted for as equity or liabilities, are as follows:

Shares Underlying Outstanding Warrants		Exercise Price	Expiration Date
30,405		$70.00	February 4 to July 15, 2018
8,640		$82.50	December 23, 2018
48,841		$107.50	March 16, 2020
31,519		$40.50	March 31, 2021
8,492		$120.00	December 31, 2018
8,492		$120.00	March 1, 2019
106,381		$22.50	June 3, 2021
533,497		$1.00	November 22, 2021
8,000,000		$1.50	May 10, 2022
8,776,267	(1)		

(1) Balance excludes outstanding pre-funded warrants. As of June 30, 2017, there were 199,900 outstanding pre-funded warrants to purchase shares of common stock which were exercised in full in July 2017 for $0.01 per share.

8. Stock-Based Compensation

Stock Option Plan

In June 2016, the Company's stockholders approved the 2016 Equity Incentive Plan (the "2016 Plan"). The 2016 Plan provides for the issuance of incentive awards in the form of non-qualified and incentive stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards and performance-based stock awards. The awards may be granted by the Company's Board of Directors to its employees, directors and officers and to consultants, agents, advisors and independent contractors who provide services to the Company or to a subsidiary of the Company. The exercise price for stock options must not be less than the fair market value of the underlying shares on the date of grant. Stock options expire no later than ten years from the date of grant and generally vest and typically become exercisable over a four-year period following the date of grant. Upon the exercise of stock options, the Company issues the resulting shares from shares reserved for issuance under the 2016 Plan. With the approval of the 2016 Plan, the remaining unallocated shares under the Company's 2013 Stock Incentive Plan were allocated to the 2016 Plan and an additional 100,000 new shares were added to the authorized share reserve under the 2016 Plan. Under the 2016 Plan, the number of shares authorized for issuance automatically increases annually beginning January 1, 2017 and through January 1, 2026. On January 1, 2017, the number of shares of common stock authorized for future issuance was automatically increased by 82,440 shares.

Share-based Compensation

The Company estimates the fair value of stock options with performance and service conditions using a Black-Scholes option valuation model. The assumptions used in the Black-Scholes option pricing model are presented below:

	Six Months Ended June 30,	
	2017	2016
Risk-free interest rate	1.27 to 2.27 %	1.46 to 1.63 %
Expected volatility	117 to 131 %	113 to 115 %
Expected term (years)	2.0 to 9.6	6.0
Expected dividend yield	0 %	0 %

The table below summarizes the total stock-based compensation expense included in the Company's consolidated statements of operations for the periods presented:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Research and development	$ 73,000	$ 26,000	$ 101,000	$ 52,000
General and administrative	226,000	522,000	369,000	1,312,000
Total stock-based compensation	$ 299,000	$ 548,000	$ 470,000	$ 1,364,000

Stock option transactions during the six months ended June 30, 2017 are presented below:

	Options Outstanding			
	Shares	Weighted Average Exercise Price	Average Remaining Contractual Term (Years)	Intrinsic Value
Balance, December 31, 2016	74,890	$ 64.50	8.65	$ -
Granted	239,083	2.29	-	
Exercised	-	-	-	
Forfeited/Cancelled	(28,697)	89.66	-	
Balance, June 30, 2017	285,276	$ 9.83	7.20	$ 5,932
Exercisable at June 30, 2017	78,522	$ 20.12	4.96	$ -

The intrinsic value of options exercisable as of June 30, 2017 was $0 based on the Company's closing stock price of $0.78 per share and the exercise price of the options. As of June 30, 2017, there was $0.9 million of total unrecognized compensation expense related to unvested stock options, which the Company expects to recognize over the weighted average remaining period of 2.5 years.

Shares Reserved For Future Issuance

As of June 30, 2017, the Company had reserved shares of its common stock for future issuance as follows:

	Shares Reserved
Stock options outstanding	285,276
Employee stock purchase plan	21,016
Available for future grants under the 2016 Plan	36,069
Warrants	8,976,167
Total shares reserved	9,318,528

Employee Stock Purchase Plan (ESPP)

On June 20, 2016, the Company's stockholders approved the Company's 2016 Employee Stock Purchase Plan (the "ESPP"). The ESPP allows eligible employees to purchase shares of the Company's common stock on a voluntary basis. The shares are sold to participants at a price equal to the lesser of 85% of the fair market value of the Company's common stock at the (i) beginning of the offering period, or (ii) end of the six-month purchase period. The ESPP provides for four six-month purchase periods during each 24 month term. The initial shares provided for under the plan are 12,000, and automatically increase annually as allowed for under the ESPP, beginning January 1, 2017 and through January 1, 2026. On January 1, 2017, the number of shares of common stock authorized for issuance under the ESPP was automatically increased by 16,488 shares.

During the three and six months ended June 30, 2017, there were 4,200 common shares issued under the ESPP. The Company recognized $1,000 and $4,000 in compensation expenses related to the ESPP for the three and six months ended June 30, 2017, respectively.

9. Collaborative Agreements

In 2013, the Company entered into a Collaboration Agreement and a License Agreement with the University of Leicester (the "Leicester Agreements"). Under the Leicester Agreements, the Company provided payments to carry out research on the University of Leicester's development of a bacteriophage therapeutic to resolve *C. difficile* infections and licensed related patents, materials and know-how. During the three and six months ended June 30, 2017, the Company recorded $3,000 and $79,000 respectively, in research and development expenses related to the agreements. During the three and six months ended June 30, 2016, the Company recorded $43,000 and $86,000, respectively, in

research and development expenses related to the Leicester Agreements. In March 2017, the Company provided the required 180 days' notice to terminate the Leicester Collaboration Agreement. In June 2017, the Company provided the required 60 days' notice to terminate the Leicester License Agreement. The termination of the Leicester License Agreement was not material to the Company.

10. Commitments and Contingencies

From time to time, we may be involved in disputes, including litigation, relating to claims arising out of operations in the normal course of business. Any of these claims could subject us to costly legal expenses and, while we generally believe that we have adequate insurance to cover many different types of liabilities, our insurance carriers may deny coverage or our policy limits may be inadequate to fully satisfy any damage awards or settlements. If this were to happen, the payment of any such awards could have a material adverse effect on our consolidated results of operations and financial position. Additionally, any such claims, whether or not successful, could damage our reputation and business. We currently are not a party to any legal proceedings, the adverse outcome of which, in management's opinion, individually or in the aggregate, would have a material adverse effect on our consolidated results of operations or financial position.

Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

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

Statements contained in this report that are not statements of historical fact are forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995. Such forward-looking statements include, without limitation, statements concerning product development plans, the use of bacteriophages to kill bacterial pathogens, having resources sufficient to fund our operations until mid-2018, future funding sources, general and administrative expenses, clinical trial and other research and development expenses, capital expenditures, the expectation that recent operational changes will reduce cash expenditures in 2017 and support the Company's strategic emphasis on targeted phage therapies, the expected benefits of our recently announced targeted phage therapies strategy, the expected receipt of a tax rebate from the Australian tax authority, tax credits and carry-forwards, and additional financings and litigation-related matters. Words such as "believe," "anticipate," "plan," "expect," "intend," "will," "
"potential" and similar expressions are intended to identify forward-looking statements, though not all forward-looking statements necessarily contain these identifying words. These statements are subject to risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth below under Part II, Item 1A, "Risk Factors" and elsewhere in this Quarterly Report on Form 10-Q. These forward-looking statements speak only as of the date on which they were made, and we undertake no obligation to update any forward-looking statements.

Overview

We are a biotechnology company pioneering the development of therapies for antibiotic-resistant infections using bacteriophage-based technology. Phages have powerful and highly selective mechanisms of action that permit them to bind to and kill specific bacteria. We believe that phages represent a promising means to treat bacterial infections, especially those that have developed resistance to current therapies, including the so-called multi-drug-resistant or "superbug" strains of bacteria.

The extensive use of antibiotics since the beginning of the modern antibiotics era in the 1940s has resulted in drug resistance among many disease-causing bacteria. According to the U.S. Centers for Disease Control and Prevention, or CDC, resistance to antibiotics threatens to reverse many of the key medical advances of the last half-century. Examples of clinically important microbes that are rapidly developing resistance to available antimicrobials, many of which are included on the WHO Priority Pathogens List published in February 2017, include bacteria that cause skin,

bone, lung and bloodstream infections (e.g., *S. aureus* and methicillin-resistant *S. aureus*, or MRSA), pneumonia and lung infections in both community and hospital settings and cystic fibrosis, or CF, patients (e.g., S. aureus, *A. baumanii, P. aeruginosa,* and *K. pneumoniae*), meningitis (e.g., *S. pneumonia*), urinary tract and gastrointestinal infections (e.g., *P. aeruginosa, E. coli* and *C. difficile*). As phages kill bacteria in ways entirely unlike the mechanisms used by traditional antibiotics, we believe that most multi-drug resistant bacteria will be susceptible to phage therapy. Furthermore, should resistant bacteria emerge or evolve, we believe it will remain possible to identify phages that can effectively kill these resistant bacteria.

Our goal is to be the leading developer of phage therapeutics. We are combining our expertise in the manufacture of drug-quality bacteriophages and our proprietary approach and expertise in identifying, characterizing and developing naturally occurring bacteriophages with that of collaboration partners in bacteriophage biology, synthetic biology and manufacturing, to develop state-of-the-art bacteriophage products. We are developing phage products to combat multi- or pan-drug-resistant bacterial pathogens, leveraging advances in sequencing and molecular biology. We have developed certain phage combinations that we believe maximize efficacy and minimize phage resistance. We currently have product candidates in clinical and preclinical development for the treatment of *S. aureus* infections, including MRSA and *P. aeruginosa* infections. We intend to develop these product candidates for the treatment of serious or life-threatening, multi-drug resistant, or MDR, infections. We also intend to seek to advance our chronic rhinosinusitis, or CRS, program and preclinical CF, program through partnerships, arrangements and/or with additional outside funding. In April 2017, the U.S. Food and Drug Administration, or FDA, provided positive feedback on our previously submitted detailed development proposal to commence a Phase 2 trial with our proprietary bacteriophage cocktail AB-SA01 for the treatment of antibiotic-resistant *S. aureus* infections in patients with CRS, which feedback followed a Type B telephonic meeting held with us on February 21, 2017. In the official minutes from the meeting, the FDA acknowledged that phage therapy is an exciting approach to treatment of multi-drug-resistant organisms and expressed a commitment to addressing the unique regulatory challenges that might arise during product development.

We believe our bacteriophage technology may have unique application in the area of targeted medicine, and in May 2017, we announced a new strategic emphasis on targeted therapies for serious or life-threatening antibiotic-resistant infections. In particular, we believe our bacteriophage technology can be used to develop targeted therapies for patients who suffer from serious or life-threatening antibiotic-resistant bacterial infections and who have limited or no other satisfactory treatment options. Moreover, we believe our ability to target phage therapies for antibiotic-resistant infections, combined with the ability of bacteriophage to re-sensitize drug-resistant populations to antibiotics, represents what could be a powerful tool against the growing challenge of antibiotic-resistant infections.

Under existing single-patient expanded access guidelines (also referred to as “compassionate use”), established by the regulatory agencies, we expect to provide targeted phage therapies to patients suffering from severe MDR infections who have failed prior therapies. We believe this strategic approach will not only provide potential benefit to patients to whom we are able to provide targeted phage therapies, but also provide the clinical data from these cases that we expect to support the potential validation of the clinical utility of phage therapy, identify the most promising indications for further clinical development of our AB-SA01 and AB-PA01 product candidates for *S. aureus* and *P. aeruginosa*, define optimal treatment regimens, and inform our future discussions with the FDA and other regulatory agencies in 2018 or later on defining a potential path to market approval. We anticipate that we will initially make targeted phage therapies available in Australia, where we plan to collaborate with leading hospitals and key opinion leaders to identify and select eligible patients. We believe Australia has a favorable regulatory framework and clinical expertise with respect to treating patients under single-patient expanded access guidelines. We also plan to provide single-patient expanded access to targeted phage therapies in the United States on a limited basis and expand it over time.

Our new emphasis on targeted therapies builds upon our prior successes using tailored bacteriophage therapies under emergency investigational new drug applications to treat individual patients battling life-threatening, MDR bacterial pathogens who had exhausted their treatment options. In March 2016, we collaborated with several academic institutions and a U.S. Navy laboratory to produce a targeted bacteriophage therapy that successfully treated a critically ill, comatose patient with an MDR *A. baumannii* infection. Shortly after phage therapy was initiated, the patient emerged from the coma and continued to improve under an ongoing combination of phage and antibiotic therapies until the infection was cleared. To date, the infection has not returned. Additionally, in December 2007 our wholly owned subsidiary, Special Phage Services, was instrumental in developing a targeted phage therapy that, together with a course of antibiotics, eliminated a previously antibiotic-resistant *P. aeruginosa* infection in the bladder of a female cancer patient.

We have generally incurred net losses since our inception and our operations to date have been primarily limited to research and development and raising capital. Since the shift in our focus to novel therapeutics in February 2011 through June 30, 2017, we have received approximately $63.2 million in gross proceeds from the issuance of our equity securities and convertible debt securities. As of June 30, 2017, we had an accumulated deficit of $391.1 million, $75.6 million of which has been accumulated since January of 2011, when our company began its focus on bacteriophage development. We anticipate that a substantial portion of our capital resources and efforts in the foreseeable future will be focused on completing the development and obtaining regulatory approval of our product candidates.

We currently expect to use our existing cash and cash equivalents for the continued research and development of our product candidates, including through our recently announced targeted phage therapies strategy, and for working capital and other general corporate purposes.

We expect to continue to incur significant and increasing operating losses at least for the next several years. We do not expect to generate product revenue unless and until we successfully complete development and obtain marketing approval for at least one of our product candidates.

We may also use a portion of our existing cash and cash equivalents for the potential acquisition of, or investment in, product candidates, technologies, formulations or companies that complement our business, although we have no current understandings, commitments or agreements to do so. Our existing cash and cash equivalents will not be sufficient to enable us to complete all necessary development of any potential product candidates. Accordingly, we will be required to obtain further funding through one or more other public or private equity offerings, debt financings, collaboration or licensing arrangements or other sources. Adequate additional funding may not be available to us on acceptable terms, or at all. If we are unable to raise capital when needed or on acceptable terms, we may be required to defer, reduce or eliminate significant planned expenditures, restructure, curtail or eliminate some or all of our development programs or other operations, dispose of assets, enter into arrangements that may require us to relinquish rights to certain of our product candidates, technologies or potential markets, file for bankruptcy or cease operations altogether. Any of these events could have a material adverse effect on our business, financial condition and results of operations and result in a loss of investment by our stockholders.

Recent Events

On April 14, 2017, our board of directors approved (i) a 1-for-10 reverse split of our outstanding common stock and (ii) a corresponding, proportional reduction in the number of our authorized shares of common stock, which became effective on April 24, 2017, pursuant to the filing of Articles of Amendment to our Articles of Incorporation with the Secretary of State of the State of Washington. As a result of the reverse stock split, proportionate adjustments were made to the per share exercise price and the number of shares issuable upon the exercise of all stock options and warrants issued by us and outstanding, which resulted in a proportionate decrease in the number of shares of our common stock reserved for issuance upon exercise of such stock options and warrants and a proportionate increase in the exercise price of all such stock options and warrants. In addition, the number of shares authorized for future grant under our equity incentive and compensation plans was reduced proportionately. Our common stock began trading on the NYSE MKT on a split-adjusted basis at market open on April 25, 2017. All common share and per common share information that is presented as of a date prior to the reverse stock split have been adjusted to give retroactive effect to the reverse stock split.

On May 10, 2017, we completed an underwritten public offering of 2,584,085 shares of our common stock and 4,483,334 pre-funded warrants to purchase common stock in lieu of additional shares of common stock, and common warrants to purchase 8,000,000 shares of common stock. The combined price to the public for each share of common stock and accompanying common warrant was $1.50. The combined price to the public for each pre-funded warrant and accompanying common warrant was $1.49. Each pre-funded warrant is exercisable for one share of common stock at an exercise price of $0.01 per share and 4,283,434 pre-funded warrants were exercised as of June 30, 2017. The common warrants are immediately exercisable at a price of $1.50 per share of common stock, and will expire five years from the date of issuance. We received net proceeds of $9.0 million, after deducting the underwriting discount and commissions, certain internal incentive payments and other offering expenses payable by us.

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Results of Operations

Comparison of three and six months ended June 30, 2017 and 2016

Revenue

For the three and six months ended June 30, 2017 we recognized $28,000 and $57,000, respectively, in revenue related to sub-licensing agreements from our former gene therapy program, compared with $103,000 and $209,000 for the three and six months ended June 30, 2016, respectively.

Research and Development

Research and development expenses for the quarter ended June 30, 2017 totaled $1.1 million compared to $1.2 million for the same period of 2016. The decrease of $0.1 million was primarily attributable to a $0.3 million decrease in costs from the completion of the CRS Phase 1 clinical trial in 2016, off-set by an increase of $0.2 million in payroll-related costs.

Research and development expenses for the six months ended June 30, 2017 totaled $2.6 million compared to $3.2 million for the same period of 2016. The decrease of $0.6 million was primarily related to approximately $0.4 million of expense recorded in connection with assets acquired from Novolytics Ltd. in 2016. The decrease was also due to a $0.4 million decrease in costs from the completion of the CRS Phase 1 clinical trial in 2016 and a decrease in professional recruitment fees, off-set by a $0.2 million increase in payroll-related costs.

General and Administrative

General and administrative expenses for the three months ended June 30, 2017 and 2016 were $2.8 million and $2.5 million, respectively. The increase of $0.3 million was primarily related to a $0.4 million severance charge, a $0.3 million increase in payroll-related costs and a $0.4 million non-cash charge related to the fair value of 523,210 shares of our common stock to potentially be issued under the First Amendment of the Common Stock Issuance Agreement. These increases to general and administrative expenses for the three months ended June 30, 2017 were primarily off-set by a $0.4 million decrease in legal fees and a $0.4 million decrease in non-cash stock-based compensation

expense from the same period in the prior year.

General and administrative expenses for the six months ended June 30, 2017 were $4.7 million compared to $5.1 million for the same period of 2016. The $0.4 million decrease was primarily attributable to a $0.9 million decrease in non-cash stock-based compensation expense, a decrease of $0.5 million in legal fees and a decrease of $0.1 million for professional recruitment fees. These decreases were off-set by a $0.4 million severance charge, a $0.3 million increase in payroll-related costs and a $0.4 million non-cash charge related to the fair value of 523,210 shares of our common stock to potentially be issued under the First Amendment of the Common Stock Issuance Agreement.

Impairment Charges

During the three and six months ended June 30, 2017, we recorded a $5.8 million impairment charge relating to our IPR&D assets originally capitalized as a result of prior acquisitions of know-how and phage libraries. Since December 31, 2016 and through the first quarter of 2017, we had IPR&D assets related to our Staph and Pseudomonas programs of $5.2 million and $5.3 million, respectively. We assessed the qualitative indicators for impairment and noted no negative operational indicators for our research and development programs. However, as of June 30, 2017, our market capitalization was approximately $6.7 million, well below the carrying amount of our net assets. As our shares of common stock are publicly-traded, the market capitalization is an indicator of the fair value which is evaluated against our net asset values. The significant excess of net asset value over market capitalization as of June 30, 2017 existed following the 1-for-10 reverse stock split completed in April 2017 and the receipt of $10.6 million in gross proceeds from an underwritten public offering in May 2017. In connection with the preparation and review of the financial statements included in this report, we determined that the IPR&D assets were impaired as of June 30, 2017.

Based on the indicators above, we assessed the fair value of our IPR&D assets and determined an impairment charge of $5.8 million, offset by a related income tax benefit of $1.3 million, was necessary in the second quarter of 2017. The impairment was due to an increase in our discount rate as compared to previous assessments due to the significant difference between our net assets and our market capitalization. The IPR&D asset has a remaining book value of $4.7 million as of June 30, 2017, $2.8 million and $1.9 million for the Staph and Pseudomonas programs, respectively. There was no similar impairment charge during the comparable periods of the prior year.

Other Income (Expense)

We recorded a gain of $1.9 million for the three months ended June 30, 2017 which was primarily related to the $1.6 million change in the fair value of our derivative liability for warrants issued in November 2016 and was attributable to a decrease in our stock price for the period of measurement. We recorded a net loss of $35,000 for the three months ended June 30, 2016 related to the change in the fair value of our derivative liabilities. The net loss was the result of a gain of $508,000 related primarily to the change in fair value of our derivative liability for warrants issued in June 2016, a gain of $91,000 related to the change in fair value of our Series B preferred stock derivative liability, and a loss of $634,000 related to the change in fair value of our dilutive financing derivative liability.

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We recorded a gain of $2.0 million for the six months ended June 30, 2017 which was primarily related to the $1.7 million change in the fair value of our derivative liability for warrants issued in November 2016 and was attributable to a decrease in our stock price for the period of measurement. We recorded a net gain of $1.4 million for the six months ended June 30, 2016 related to the change in the fair value of our derivative liabilities. The net gain was the result of a gain of $0.5 million related primarily to the change in fair value of our derivative liability for warrants issued in June 2016, a gain of $1.5 million related to the change in fair value of our Series B preferred stock derivative liability, and a loss of $0.6 million related to the change in fair value of our dilutive financing derivative liability established during the quarter ended June 30, 2016.

We incurred $0.8 million in offering costs in connection with our June 2016 registered public offering of common stock and warrants: $0.2 million of these costs were recorded to other expense in the consolidated statement of operations for the three and six months ended June 30, 2016 and the remaining costs of $0.6 million were recorded as an off-set to additional paid-in capital.

Income Taxes

We recorded an income tax benefit of $1.3 million for the three and six months ended June 30, 2017 related to a reduction of the existing deferred tax liability as a result of a $5.8 million impairment charge for our IPR&D asset discussed above. There was no similar income tax benefit during the comparable periods of the prior year.

Liquidity, Capital Resources and Financial Condition

We have prepared the accompanying consolidated financial statements on a going concern basis, which assumes that we will realize our assets and satisfy out liabilities in the normal course of business. However, we have incurred net losses since our inception, had negative operating cash flows and had an accumulated deficit of $391.1 million as of June 30, 2017, $75.6 million of which has been accumulated since January of 2011, when we began our focus on bacteriophage development. These circumstances raise substantial doubt about our ability to continue as a going concern. The accompanying financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of the uncertainty concerning our ability to continue as a going concern.

We had cash and cash equivalents of $9.0 million at June 30, 2017. We have made operational changes that are expected to reduce our cash expenditures in 2017 and which we believe will support our strategic emphasis on precisely targeted bacteriophage therapies. We have filed an Australian tax return for the year 2016 and currently expect receipt of approximately $1.8 million in tax rebate incentive payments from the Australian tax authority in the

third quarter of 2017, subject to review of the tax return by Australian tax authorities. There can be no assurance that we will receive such tax rebate when or in the amount we currently anticipate, or at all. We believe our existing cash resources will be sufficient to fund our planned operations until mid-2018. However, we cannot provide assurances that our plans will not change or that changed circumstances will not result in the depletion of our capital resources more rapidly than we currently anticipate.

Operating activities

Net cash used in operating activities for the six months ended June 30, 2017 was $6.2 million, as compared to $6.0 million for the six months ended June 30, 2016. Loss before income taxes recorded during the six months ended June 30, 2017 was $11.0 million, inclusive of a $2.0 million non-cash gain on derivative liabilities primarily related to warrants and a non-cash impairment charge of $5.8 million. Loss before income taxes recorded during the six months ended June 30, 2016 was $7.0 million, inclusive of a $1.4 million non-cash gain related primarily to the Series B preferred stock derivative liability. Loss from operations increased from $8.1 million during the six months ended June 30, 2016 to $13.0 million during the six months ended June 30, 2017. The $4.9 million increase is related to a $5.8 million non-cash impairment charge, off-set by a $0.9 million decrease in loss from operations related primarily to lower non-cash stock based compensation expense and one-time expenses related to assets acquired from Novolytics during the six months ended June 30, 2016.

Investing activities

Net cash used in investing activities was $7,000 and $0.2 million for the six months ended June 30, 2017 and 2016, respectively, and was primarily attributable to purchases of property and equipment.

Financing activities

Cash provided by financing activities for the six months ended June 30, 2017 was comprised of net proceeds of $9.0 million from the May 2017 offering of common stock, pre-funded warrants and common warrants to purchase common stock, after deducting the underwriting discount and commissions, certain internal incentive payments and other expenses related to the offering of approximately $1.6 million. Cash provided by financing activities for the six months ended June 30, 2016 was comprised of net proceeds of $4.2 million from the June 2016 registered public offering of common stock and warrants to purchase common stock, after deducting placement agent fees and other expenses related to the issuance of $0.8 million.

Future Capital Requirements

We will need to raise additional capital to continue to fund our future operations. Our future funding requirements will depend on many factors, including:

- the costs and timing of our research and development activities;
- the progress and cost of our clinical trials and other research and development activities;
- manufacturing costs associated with our targeted phage therapies strategy and other research and development activities;
- the terms and timing of any collaborative, licensing, acquisition or other arrangements that we may establish;
- whether and when we receive the expected $1.8 million Australian tax rebate, or other future tax rebates, if any;
- the costs and timing of seeking regulatory approvals;
- the costs of filing, prosecuting and enforcing any patent applications, claims, patents and other intellectual property rights; and
- the costs of lawsuits involving us or our product candidates.

We may seek funds through arrangements with collaborators or others that may require us to relinquish rights to the product candidates that we might otherwise seek to develop or commercialize independently. We cannot be certain that we will be able to enter into any such arrangements on reasonable terms, if at all.

We may seek to raise capital through a variety of sources, including:

- the public equity market;
- private equity financings;
- collaborative arrangements;
- licensing arrangements; and/or
- public or private debt.

Any additional fundraising efforts may divert our management team from their day to day activities, which may adversely affect our ability to develop and commercialize our product candidates. Our ability to raise additional funds will depend, in part, on the success of our product development activities, including our targeted phage therapies strategy and any clinical trials we initiate, regulatory events, our ability to identify and enter into in-licensing or other strategic arrangements, and other events or conditions that may affect our value or prospects, as well as factors related to financial, economic and market conditions, many of which are beyond our control. We cannot be certain that sufficient funds will be available to us when required or on acceptable terms. If we are unable to secure additional funds on a timely basis or on acceptable terms we may be required to defer, reduce or eliminate significant planned expenditures, restructure, curtail or eliminate some or all of our development programs or other operations, dispose of

technology or assets, pursue an acquisition of our company by a third party at a price that may result in a loss on investment for our stockholders, enter into arrangements that may require us to relinquish rights to certain of our product candidates, technologies or potential markets, file for bankruptcy or cease operations altogether. Any of these events could have a material adverse effect on our business, financial condition and results of operations. Moreover, if we are unable to obtain additional funds on a timely basis, there will be substantial doubt about our ability to continue as a going concern and increased risk of insolvency and loss of investment by our stockholders. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of such securities could result in dilution to our existing stockholders.

Off-Balance Sheet Arrangements

As of June 30, 2017, we did not have off-balance sheet arrangements.

Recent Accounting Pronouncements

Refer to *Note 3* of the condensed consolidated notes to the consolidated financial statements contained elsewhere in this report.

Item 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are a smaller reporting company as defined by Rule 12b-2 of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and are not required to provide the information required under this item.

Item 4. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of the end of the period covered by this report. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in the reports we file or submit under the Exchange Act is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required

disclosure. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable and not absolute assurance of achieving the desired control objectives. In reaching a reasonable level of assurance, management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. In addition, the design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective disclosure controls system, misstatements due to error or fraud may occur and not be detected.

Based on this evaluation, our Chief Executive Officer and Chief Financial Officer, have concluded that our disclosure controls and procedures were not effective at the reasonable assurance level as of the end of the period covered by this report as a result of the material weakness identified in our internal control over financial reporting as of December 31, 2016, as described further below.

Changes in Internal Control Over Financial Reporting

An evaluation was also performed under the supervision and with the participation of our management, including our principal executive officer and our principal financial officer, of any change in our internal control over financial reporting that occurred during our last fiscal quarter and that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. That evaluation did not identify any change in our internal control over financial reporting that occurred during our latest fiscal quarter and that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting, other than as disclosed below.

Remediation of Material Weakness

As of December 31, 2015, the Company disclosed the following material weakness within its 2015 Form 10-K: “We concluded that we did not maintain adequate and effective internal control in the area of complex and non-routine transactions and in the application of Accounting Standards Codification No. 260, “Earnings Per Share,” or ASC 260 as of December 31, 2015.” Although we made improvements and implemented certain aspects of our remediation plan through December 31, 2016, we did not believe that the applicable remedial controls had operated for a sufficient period of time or number of occurrences to allow for sufficient testing to determine the controls’ operating effectiveness. We also did not believe that our remediation plan had been fully implemented as of December 31, 2016. Accordingly, the identified material weakness remained outstanding.

We continue to review, document and test our internal control over financial reporting. For the six months ended June 30, 2017, we have taken additional steps to remediate those previously identified deficiencies in our internal control over financial reporting in the area of complex and non-routine transactions. We have continued implementation of standardized financial control and reporting processes which have resulted in improvements to our internal control of financial reporting. These remediation actions are being monitored by the Audit Committee of our Board of Directors.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we are a party to certain litigation that is either judged to be not material or that arises in the ordinary course of business. We intend to vigorously defend our interests in these matters. We expect that the resolution of these matters will not have a material adverse effect on our business, financial condition or results of operations. However, due to the uncertainties inherent in litigation, no assurance can be given as to the outcome of these proceedings.

Item 1A. Risk Factors

You should consider carefully the following information about the risks described below, together with the other information contained in this Quarterly Report and in our other public filings in evaluating our business. The risk factors set forth below that are marked with an asterisk (*) did not appear as separate risk factors in, or contain changes to the similarly titled risk factors included in, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2016. If any of the following risks actually occur, our business, financial condition, results of operations, and future growth prospects would likely be materially and adversely affected. In these circumstances, the market price of our common stock would likely decline.

Risks Related to Our Financial Condition and Need for Additional Capital

We will need to raise additional capital to support our operations, which may not be available on acceptable terms, or at all.*

We will need to raise additional capital to support our operations and product development activities. In the near term, we expect to continue to fund our operations, if at all, primarily through equity and debt financings in the future. We may also seek funds through arrangements with collaborators or others that may require us to relinquish rights to the product candidates that we might otherwise seek to develop or commercialize independently. If additional capital is not available to us when needed or on acceptable terms, we may not be able to continue to operate our business pursuant to our business plan or we may have to discontinue our operations entirely. While we believe that our existing resources will be sufficient to fund our planned operations until mid-2018, we cannot provide assurances that our plans will not change or that changed circumstances will not result in the depletion of our capital resources more rapidly than we currently anticipate.

Developing drugs and conducting clinical trials is expensive. Our future funding requirements will depend on many factors, including:

- the costs and timing of our research and development activities;
- the progress and cost of our clinical trials and other research and development activities;
- manufacturing costs associated with our targeted phage therapies strategy and other research and development activities;
- the terms and timing of any collaborative, licensing, acquisition or other arrangements that we may establish;
- whether and when we receive the expected $1.8 million Australian tax rebate, or other future tax rebates, if any;
- the costs and timing of seeking regulatory approvals;
- the costs of filing, prosecuting, defending and enforcing any patent applications, claims, patents and other intellectual property rights; and
- the costs of lawsuits involving us or our product candidates.

We may seek to raise capital through a variety of sources, including:

- the public equity market;
- private equity financings;
- collaborative arrangements;
- licensing arrangements; and/or

·public or private debt.

Raising additional capital through the sale of securities could cause significant dilution to our stockholders. Any additional fundraising efforts may divert our management from their day to day activities, which may adversely affect our ability to develop and commercialize our product candidates. Our ability to raise additional funds will depend, in part, on the success of our product development activities, including our targeted phage therapies strategy and any clinical trials we initiate, regulatory events, our ability to identify and enter into in-licensing or other strategic arrangements, and other events or conditions that may affect our value or prospects, as well as factors related to financial, economic and market conditions, many of which are beyond our control. There can be no assurances that sufficient funds will be available to us when required or on acceptable terms, if at all.

If we are unable to secure additional funds when needed or on acceptable terms, we may be required to defer, reduce or eliminate significant planned expenditures, restructure, curtail or eliminate some or all of our development programs or other operations, dispose of technology or assets, pursue an acquisition of our company by a third party at a price that may result in a loss on investment for our stockholders, enter into arrangements that may require us to relinquish rights to certain of our product candidates, technologies or potential markets, file for bankruptcy or cease operations altogether. Any of these events could have a material adverse effect on our business, financial condition and results of operations. Moreover, if we are unable to obtain additional funds on a timely basis, there will be substantial doubt about our ability to continue as a going concern and increased risk of insolvency and up to a total loss of investment by our stockholders.

We have incurred losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future, and our future profitability is uncertain.*

We have incurred losses in each year since our inception in 1992. As of June 30, 2017, our accumulated deficit was $391.1 million, $75.6 million of which has been accumulated since January of 2011, when we began our focus on bacteriophage development, and we expect to incur losses for the foreseeable future. We have devoted, and will continue to devote for the foreseeable future, substantially all of our resources to research and development of our product candidates. For the six months ended June 30, 2017 and 2016, we had losses from operations of $13.0 million and $8.1 million, respectively. Additional information regarding our results of operations may be found in our consolidated financial statements and in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included Item 2 in this report.

Clinical trials and activities associated with discovery research are costly. We do not expect to generate any revenue from the commercial sales of our product candidates in the near term, and we expect to continue to have significant losses for the foreseeable future.

To attain ongoing profitability, we will need to develop products that receive regulatory approval, and market and sell such products effectively, or rely on other parties to do so. We cannot predict when we will achieve ongoing profitability, if at all. We have never generated revenue from product sales and there is no guarantee that we will be able to do so in the future. If we fail to become profitable, or if we are unable to fund our continuing losses, our business, financial condition and results of operations may be materially adversely impacted and our stock price could decline.

We have never generated any revenue from product sales and may never be profitable.

Our ability to generate meaningful revenue and achieve profitability depends on our ability, and the ability of any third party with which we may partner, to successfully complete the development of, and obtain the regulatory approvals necessary to, commercialize our product candidates. We do not anticipate generating revenues from product sales for the foreseeable future, if ever. If any of our product candidates fail in clinical trials or if any of our product candidates do not gain regulatory approval, or if any of our product candidates, if approved, fail to achieve market acceptance, 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 ability to generate future revenues from product sales depends heavily on our success in:

- completing research and preclinical and clinical development of our product candidates;
- seeking and obtaining regulatory and marketing approvals for product candidates for which we complete clinical trials;
- developing a sustainable, scalable, reproducible, and transferable manufacturing process for our product candidates;
- launching and commercializing product candidates for which we obtain regulatory and marketing approval, either by establishing a sales force, marketing and distribution infrastructure, or by collaborating with a partner;
- obtaining market acceptance of any approved products;
- addressing any competing technological and market developments;
- implementing additional internal systems and infrastructure, as needed;

- identifying and validating new product candidates;

- negotiating favorable terms in any collaboration, licensing or other arrangements into which we may enter;

- maintaining, protecting and expanding our portfolio of intellectual property rights, including patents, trade secrets and know-how; and

- attracting, hiring and retaining qualified personnel.

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

Taxing authorities could reallocate our taxable income among our subsidiaries, which could increase our overall tax liability.

We are organized in the United States, and we currently have subsidiaries in the United Kingdom, Australia and Slovenia. If we succeed in growing our business, we expect to conduct increased operations through our subsidiaries in various tax jurisdictions pursuant to transfer pricing arrangements between us and our subsidiaries. If two or more affiliated companies are located in different countries, the tax laws or regulations of each country generally will require that transfer prices be the same as those between unrelated companies dealing at arm's length and that appropriate documentation is maintained to support the transfer prices. While we believe that we operate in compliance with applicable transfer pricing laws and intend to continue to do so, our transfer pricing procedures are not binding on applicable tax authorities.

If tax authorities in any of these countries were to successfully challenge our transfer prices as not reflecting arm's length transactions, they could require us to adjust our transfer prices and thereby reallocate our income to reflect these revised transfer prices, which could result in a higher tax liability to us. In addition, if the country from which the income is reallocated does not agree with the reallocation, both countries could tax the same income, resulting in double taxation. If tax authorities were to allocate income to a higher tax jurisdiction, subject our income to double taxation or assess interest and penalties, it would increase our consolidated tax liability, which could adversely affect our financial condition, results of operations and cash flows.

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

Our ability to utilize our net operating loss carryforwards, or NOLs, and certain other tax attributes may be limited under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, or the Code. These limitations apply if an "ownership change," as defined by Section 382 of the Code, occurs. If we have experienced an "ownership change" at any time since our formation, we may already be subject to limitations on our ability to utilize our existing net operating losses and other tax attributes to offset taxable income. In addition, future changes in our stock ownership (including in connection with future private or public offerings, as well as changes that may be outside of our control), may trigger an "ownership change" and, consequently, limitations under Sections 382 and 383 of the Code. As a result, if we earn net taxable income, our ability to use our pre-change net operating loss carryforwards and other pre-change tax attributes to offset U.S. federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to us. In addition, at the state level, there may be periods during which the use of NOLs is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. We have not completed a study to assess whether an "ownership change" has occurred or whether there have been multiple "ownership changes" since our formation, due to the complexity and cost associated with such a study, and the fact that we believe there will likely be additional ownership changes in the future. However, we believe there may have been one or more "ownership changes" since our formation, including in connection with our November 2016 and May 2017 public offerings.

If we fail to maintain proper and effective internal control over financial reporting, our ability to produce accurate financial statements on a timely basis could be impaired and our public reporting may be unreliable.

We are required to maintain internal control over financial reporting adequate to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our consolidated financial statements in accordance with generally accepted accounting principles. In connection with the correction of an immaterial error in the third quarter of 2016, and the restatement of our consolidated financial statements for the second quarter of 2015, we determined that we had a material weakness as of December 31, 2016, namely that our internal control over financial reporting, including control over the evaluation and review of complex and non-routine transactions, was not effective. A material weakness means a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the registrant's annual or interim financial statements will not be prevented or detected on a timely basis.

We do not expect that our internal control over financial reporting will prevent all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. Over time, controls may become inadequate because changes in conditions or deterioration in the degree of compliance with policies or procedures may occur. Because of the inherent limitations in a cost-effective

control system, misstatements due to error or fraud may occur and not be detected. As a result, we cannot assure you that significant deficiencies or material weaknesses in our internal control over financial reporting will not be identified in the future.

We are taking steps to remediate the material weakness in our internal control over financial reporting, including the addition of and training of qualified personnel to identify and evaluate complex and non-routine transactions and the development of specific procedures, processes and internal controls related to complex and non-routine transactions. However, we cannot assure you that these efforts will remediate our material weakness in a timely manner, or at all, or that we will be able to maintain effective controls and procedures even if we remediate our material weakness. If we are unable to successfully remediate our material weakness, implement and maintain effective controls and procedures, or identify any future material weaknesses, the accuracy and timing of our financial reporting may be adversely affected, we may be unable to maintain compliance with securities law requirements regarding timely filing of periodic reports and we may experience a loss of public confidence, which could have an adverse effect on our business, financial condition and the market price of our common stock and other securities.

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

As a public company, we incur significant legal, accounting and other expenses. We are subject to the reporting requirements of the Exchange Act, which require, among other things, that we file with the SEC annual, quarterly and current reports with respect to our business and financial condition. In addition, the Sarbanes-Oxley Act, as well as rules subsequently adopted by the SEC and the NYSE MKT to implement provisions of the Sarbanes-Oxley Act, imposes significant requirements on public companies, including requiring establishment and maintenance of effective disclosure and financial controls and changes in corporate governance practices. Further, in July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, was enacted. There are significant corporate governance and executive compensation related provisions in the Dodd-Frank Act that require the SEC to adopt additional rules and regulations in these areas such as “say on pay” and proxy access. Recent legislation permits emerging growth companies to implement many of these requirements over a longer period and up to five years following their initial public offering. We intend to take advantage of this new legislation but cannot guarantee that we will not be required to implement these requirements sooner than expected and thereby incur unexpected expenses.

We expect the rules and regulations applicable to public companies to result in us continuing to incur substantial legal and financial compliance costs. These costs will decrease our net income or increase our net loss, and may require us to reduce costs in other areas of our business.

Risks Related to Our Business

Results from preclinical studies and Phase 1 or 2 clinical trials of our product candidates or from single-patient expanded access treatments may not be predictive of the results of later stage clinical trials.*

Preclinical studies, including studies of our product candidates in animal disease models, may not accurately predict the result of human clinical trials of those product candidates. In particular, promising animal studies suggesting the efficacy of prototype phage products in the treatment of bacterial infections, such as *P. aeruginosa* and *S. aureus,* may not predict the ability of these products to treat similar infections in humans. Despite promising data in our completed Phase 1 clinical trials, our phage technology may be found not to be efficacious in treating bacterial infections alone or in combination with other agents, when studied in later-stage clinical trials.

In addition, we have used and plan to continue to use our bacteriophage technology in the area of targeted medicine under single-patient expanded access guidelines, which permit the use of phage therapy outside of clinical trials, beginning in Australia and then expanding to the United States and potentially other countries. Despite prior single-patient expanded access successes, no assurance can be given that we will have similar single-patient expanded access treatment successes in the future. Single-patient expanded access is a term that is used to refer to the use of an investigational drug or therapy outside of a clinical trial to treat a patient with a serious or immediately life-threatening disease or condition who has no comparable or satisfactory alternative treatment options. Regulators often allow single-patient expanded access on a case-by-case basis for an individual patient or for defined groups of patients with similar treatment needs. In some countries, such as Australia, the treating physician can administer treatment under single-patient expanded access guidelines without pre-approval from the applicable regulatory authority.

To satisfy FDA or foreign regulatory approval standards for the commercial sale of our product candidates, we must demonstrate in adequate and controlled clinical trials that our product candidates are safe and effective. Success in early clinical trials, including Phase 1 and Phase 2 trials, or in our single-patient expanded access program does not ensure that later clinical trials will be successful. Our initial results from early stage clinical trials or our single-patient expanded access program also may not be confirmed by later analysis or subsequent larger clinical trials. A number of companies in the pharmaceutical industry have suffered significant setbacks in advanced clinical trials, even after obtaining promising results in earlier clinical trials and most product candidates that commence clinical trials are never approved for commercial sale.

Our targeted phage therapies strategy may not be successful, which in turn could adversely affect our business.*

Our targeted phage therapies strategy involves providing phage therapy under single-patient expanded access guidelines to patients outside of clinical trials with antibiotic-resistant infections who have few or no other therapeutic options. We believe this strategic approach will not only provide potential benefit to patients to whom we are able to provide targeted phage therapies under the single-patient expanded access guidelines, but also provide the clinical data from these single-patient expanded access cases that we expect to support the potential validation of the clinical utility of phage therapy and inform our future discussions with the FDA in 2018 or later on defining a potential path to market approval. However, this program is subject to numerous risks and uncertainties, including the following:

- We have not established a cost reimbursement structure or otherwise entered into an arrangement that would at least offset our manufacturing costs for our phage therapies that may be administered to patients under single-patient expanded access guidelines. Increasing demand for our phage therapies in single-patient expanded access cases could result in significant costs to us.

- Responding to single-patient expanded access requests could divert attention of our personnel and use manufacturing resources that could otherwise be deployed in other development program activities.

- Single-patient expanded access treatment data may not establish proof-of-concept, and the FDA or other regulatory authorities may not accept single-patient expanded access data as sufficient clinical validation in support of our regulatory approval efforts, which could materially delay and increase the costs of our product development and commercialization activities.

- Patient access to phage therapy will be provided on an individual basis where physicians will make an application or post-treatment notification to the applicable regulatory authorities on a patient-by-patient basis. This can impose a significant administrative burden on participating physicians, who may be resistant to navigating a process with which they are unfamiliar.

We are seeking to develop antibacterial agents using bacteriophage technology, a novel approach, which makes it difficult to predict the time and cost of development. No bacteriophage products have been approved in the United States or elsewhere.

We are developing our product candidates with bacteriophage technology. We have not, nor to our knowledge has any other company, received regulatory approval from the FDA or equivalent foreign agencies for a pharmaceutical drug based on this approach. While *in vitro* studies have characterized the behavior of bacteriophages in cell cultures and there exists a body of literature regarding the use of phage therapy in humans, the safety and efficacy of phage therapy in humans has not been extensively studied in well-controlled modern clinical trials. Most of the prior research on phage-based therapy was conducted in the former Soviet Union prior to and immediately after World War II and lacked appropriate control group design or lacked control groups at all. Furthermore, the standard of care has changed substantially during the ensuing decades since those studies were performed, diminishing the relevance of prior claims of improved cure rates. We cannot be certain that our approach will lead to the development of approvable or marketable drugs.

Developing phage-based therapies on a commercial scale will also require developing new manufacturing processes and techniques. We and our third-party collaborators may experience delays in developing manufacturing capabilities for our product candidates, and may not be able to do so at the scale required to efficiently conduct the clinical trials required to obtain regulatory approval of our product candidates, or to manufacture commercial quantities of our products, if approved.

In addition, the FDA or other regulatory agencies may lack experience in evaluating the safety and efficacy of drugs based on these approaches, which could lengthen the regulatory review process, increase our development costs and delay or prevent commercialization of our product candidates.

Delays in our clinical trials could result in us not achieving anticipated developmental milestones when expected, increased costs and delay our ability to obtain regulatory approval for and commercialize our product candidates.

Delays in our ability to commence or enroll patients for our clinical trials could result in us not meeting anticipated clinical milestones and could materially impact our product development costs and delay regulatory approval of our product candidates. Planned clinical trials may not be commenced or completed on schedule, or at all. Clinical trials can be delayed for a variety of reasons, including:

- delays in the development of manufacturing capabilities for our product candidates to enable their consistent production at clinical trial scale;

- failures in our internal manufacturing operations that result in our inability to consistently and timely produce bacteriophages in sufficient quantities to support our clinical trials;
- the availability of financial resources to commence and complete our planned clinical trials;
- delays in reaching a consensus with clinical investigators on study design;
- delays in reaching a consensus with regulatory agencies on trial design or in obtaining regulatory approval to commence a trial;
- delays in obtaining clinical materials;
- slower than expected patient recruitment for participation in clinical trials;
- failure by clinical trial sites, other third parties, or us to adhere to clinical trial agreements;
- delays in reaching agreement on acceptable clinical trial agreement terms with prospective sites or obtaining institutional review board approval; and
- adverse safety events experienced during our clinical trials.

If we do not successfully commence or complete our clinical trials on schedule, the price of our common stock may decline.

Completion of clinical trials depends, among other things, on our ability to enroll a sufficient number of patients, which is a function of many factors, including:

- the therapeutic endpoints chosen for evaluation;
- the eligibility criteria defined in the protocol;
- the perceived benefit of the product candidate under study;

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- the size of the patient population required for analysis of the clinical trial's therapeutic endpoints;
- our ability to recruit clinical trial investigators and sites with the appropriate competencies and experience;
- our ability to obtain and maintain patient consents; and
- competition for patients from clinical trials for other treatments.

We may experience difficulties in enrolling patients in our clinical trials, which could increase the costs or affect the timing or outcome of these clinical trials. This is particularly true with respect to diseases with relatively small patient populations.

We have not completed formulation development of any of our product candidates.

The development of our bacteriophage product candidates requires that we isolate, select and combine a number of bacteriophages that target the desired bacteria for that product candidate. The selection of bacteriophages for any of our product candidates is based on a variety of factors, including without limitation the ability of the selected phages, in combination, to successfully kill the targeted bacteria, the degree of cross-reactivity of the individual phages with the same part of the bacterial targets, the ability of the combined phages to satisfy regulatory requirements, our ability to manufacture sufficient quantities of the phages, intellectual property rights of third parties, and other factors. While we have selected an initial formulation of AB-SA01 for the treatment of *S. aureus* infections, there can be no assurance that this will be the final formulation of AB-SA01 for commercialization. In addition, we have initiated final phage selection for AB-PA01, our *P. aeruginosa* product. AB-CD01, which is our *C. difficile* product, is at an earlier stage. If we are unable to complete formulation development of our product candidates in the time frame that we have anticipated, then our product development timelines, and the regulatory approval of our product candidates, could be delayed.

Our product candidates must undergo rigorous clinical testing, such clinical testing may fail to demonstrate safety and efficacy and any of our product candidates could cause undesirable side effects, which would substantially delay or prevent regulatory approval or commercialization.

Before we can obtain regulatory approval for a product candidate, we must undertake extensive clinical testing in humans to demonstrate safety and efficacy to the satisfaction of the FDA or other regulatory agencies. Clinical trials of new drug candidates sufficient to obtain regulatory marketing approval are expensive and take years to complete.

We cannot be certain of successfully completing clinical testing within the time frame we have planned, or at all. We may experience numerous unforeseen events during, or as a result of, the clinical trial process that could delay or prevent us from receiving regulatory approval or commercializing our product candidates, including the following:

- our clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical and/or preclinical testing or to abandon programs;

- the results obtained in earlier stage clinical testing may not be indicative of results in future clinical trials;

- clinical trial results may not meet the level of statistical significance required by the FDA or other regulatory agencies;

- we, or regulators, may suspend or terminate our clinical trials if the participating patients are being exposed to unacceptable health risks; and

- our product candidates may have unintended or undesirable effects on patients that may delay or preclude regulatory approval of our product candidates or limit their commercial use, if approved.

We must continue to develop manufacturing processes for our product candidates and any delay in or our inability to do so would result in delays in our clinical trials.

We are developing novel manufacturing processes for our product candidates at our facility in Ljubljana, Slovenia. The manufacturing processes for our product candidates, and the scale up of such processes for clinical trials, is novel, and there can be no assurance that we will be able to complete this work in a timely manner, if at all. Any delay in the development or scale up of these manufacturing processes could delay the start of clinical trials and harm our business. Our facility in Slovenia must also undergo ongoing inspections by JAZMP, the agency that regulates and supervises pharmaceutical products in Slovenia, for compliance with their and the EMA's, current good manufacturing practice regulations, or cGMP regulations, before the respective product candidates can be approved for use in clinical trials or commercialization. In the event these facilities do not receive a satisfactory cGMP inspection for the manufacture of our product candidates, we may need to fund additional modifications to our manufacturing process, conduct additional validation studies, or find alternative manufacturing facilities, any of which would result in significant cost to us as well as a delay of up to several years in obtaining approval for such product candidate.

Our manufacturing facility will be subject to ongoing periodic inspection by the European regulatory authorities, including JAZMP, and the FDA for compliance with European and FDA cGMP regulations. Compliance with these regulations and standards is complex and costly, and there can be no assurance that we will be able to comply. Any failure to comply with applicable regulations could result in sanctions being imposed (including fines, injunctions and civil penalties), failure of regulatory authorities to grant marketing approval of our product candidates, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates or products, operating restrictions and criminal prosecution.

We may conduct clinical trials for our products or product candidates outside the United States and the FDA may not accept data from such trials.

We completed an investigator-sponsored clinical trial of AB-SA01 at the University of Adelaide in Australia for CRS in December 2016. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of such study data by the FDA is subject to certain conditions. For example, the study must be well designed and conducted and performed by qualified investigators in accordance with ethical principles. The study population must also adequately represent the U.S. population, and the data must be applicable to the U.S. population and U.S. medical practice in ways that the FDA deems clinically meaningful. Generally, the patient population for any clinical studies conducted outside of the United States must be representative of the population for whom we intend to label the product in the United States. In addition, such studies would be subject to the applicable local laws and FDA acceptance of the data would be dependent upon its determination that the studies also complied with all applicable U.S. laws and regulations. There can be no assurance the FDA will accept data from trials conducted outside of the United States. If the FDA does not accept any such data, it would likely result in the need for additional trials, which would be costly and time consuming and delay aspects of our business plan. During a telephonic meeting in February 2017, we received positive feedback from the FDA regarding our previously submitted proposal to proceed with a Phase 2 clinical trial of AB-SA01 for CRS. However, there can be no assurances that the FDA would ultimately support any decision by us to pursue a Phase 2 clinical trial based on data we currently have available.

We may need to license additional intellectual property rights.*

The development and commercialization of phage-based antibacterial agents may require us to obtain rights to intellectual property from third parties. For example, pursuant to our Collaborative Research and Development Agreement with the United States Army Medical Research and Materiel Command and the Walter Reed Army Institute of Research, we are currently focusing on developing bacteriophage therapeutics to treat *S. aureus* infections. To the extent the intellectual property is generated from the United States Army Medical Research and Materiel Command or Walter Reed Army Institute of Research that is used in a commercial product, we may be obligated to make payments such as royalties, licensing fees and milestone payments. We may also determine that it is necessary or advisable to license other intellectual property from third parties. There can be no assurance that such intellectual property rights would be available on commercially reasonable terms, if at all.

We are subject to significant regulatory approval requirements, which could delay, prevent or limit our ability to market our product candidates.

Our research and development activities, preclinical studies, clinical trials and the anticipated manufacturing and marketing of our product candidates are subject to extensive regulation by the FDA and other regulatory agencies in the United States and by comparable authorities in Europe and elsewhere. There can be no assurance that our manufacturing facilities will satisfy the requirements of the FDA or comparable foreign authorities. We require the approval of the relevant regulatory authorities before we may commence commercial sales of our product candidates in a given market. The regulatory approval process is expensive and time-consuming, and the timing of receipt of regulatory approval is difficult to predict. Our product candidates could require a significantly longer time to gain regulatory approval than expected, or may never gain approval. We cannot be certain that, even after expending substantial time and financial resources, we will obtain regulatory approval for any of our product candidates. A delay or denial of regulatory approval could delay or prevent our ability to generate product revenues and to achieve profitability.

Changes in regulatory approval policies during the development period of any of our product candidates, changes in, or the enactment of, additional regulations or statutes, or changes in regulatory review practices for a submitted product application may cause a delay in obtaining approval or result in the rejection of an application for regulatory approval.

Regulatory approval, if obtained, may be made subject to limitations on the indicated uses for which we may market a product. These limitations could adversely affect our potential product revenues. Regulatory approval may also require costly post-marketing follow-up studies. In addition, the labeling, packaging, adverse event reporting, storage, advertising, promotion and record-keeping related to the product will be subject to extensive ongoing regulatory requirements. Furthermore, for any marketed product, its manufacturer and its manufacturing facilities will be subject to continual review and periodic inspections by the FDA or other regulatory authorities. Failure to comply with applicable regulatory requirements may, among other things, result in fines, suspensions of regulatory approvals, product recalls, product seizures, operating restrictions and criminal prosecution.

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

In addition to our U.S. operations, we have operations and subsidiaries in the United Kingdom, Australia and Slovenia. We face risks associated with our international operations, including possible unfavorable regulatory, pricing and reimbursement, political, tax and labor conditions, which could harm our business. We are subject to numerous risks associated with international business activities, including:

- compliance with differing or unexpected regulatory requirements for the development, manufacture and, if approved, commercialization of our product candidates;
- difficulties in staffing and managing foreign operations;
- foreign government taxes, regulations and permit requirements;
- U.S. and foreign government tariffs, trade restrictions, price and exchange controls and other regulatory requirements;
- anti-corruption laws, including the Foreign Corrupt Practices Act, or the FCPA;
- economic weakness, including inflation, natural disasters, war, events of terrorism or political instability in particular foreign countries;
- fluctuations in currency exchange rates, which could result in increased operating expenses and reduced revenues, and other obligations related to doing business in another country;
- compliance with tax, employment, immigration and labor laws, regulations and restrictions for employees living or traveling abroad;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad;
- changes in diplomatic and trade relationships; and

- challenges in enforcing our contractual and intellectual property rights, especially in those foreign countries that do not respect and protect intellectual property rights to the same extent as the United States.

These and other risks associated with our international operations may materially adversely affect our business, financial condition and results of operations.

We do not have a sales force and do not currently have plans to develop one.

The commercial success of any of our product candidates will depend upon the strength of sales and marketing efforts for them. We do not have a sales force and have no experience in sales, marketing or distribution. To successfully commercialize our product candidates, we will need to develop such a capability ourselves or seek assistance from a third party with a large distribution system and a large direct sales force. We may be unable to put such a plan in place. In addition, if we arrange for others to market and sell our products, our revenues will depend upon the efforts of those parties. Such arrangements may not succeed. Even if one or more of our product candidates is approved for marketing, if we fail to establish adequate sales, marketing and distribution capabilities, independently or with others, our business will be materially harmed.

Our success depends in part on attracting, retaining and motivating our personnel.*

Our success depends on our continued ability to attract, retain and motivate highly qualified management, clinical and scientific personnel and on our ability to develop and maintain important relationships with leading academic institutions, clinicians and scientists. As of August 9, 2017, we had 32 full time employees. Our success will depend on our ability to retain and motivate personnel and hire additional qualified personnel when required. Competition for qualified personnel in the biotechnology field is intense. We face competition for personnel from other biotechnology and pharmaceutical companies, universities, public and private research institutions and other organizations. We also face competition from other more well-funded and well-established businesses and we may also be viewed as a riskier choice from a job stability perspective due to our relative newer status than longer existing biotech and pharmaceutical companies. We may not be able to attract and retain qualified personnel on acceptable terms given the competition for such personnel. If we are unsuccessful in our retention, motivation and recruitment efforts, we may be unable to execute our business strategy.

We must manage a geographically dispersed organization.

While we are a small company, we currently have operations in the United States, Australia and Slovenia. In the future, we may also locate facilities in other locations based on proximity to personnel with the expertise needed to research, develop and manufacture phage-based therapeutics, costs of operations or other factors. Managing our

organization across multiple locations and multiple time zones may reduce our efficiency, increase our expenses and increase the risk of operational difficulties in the execution of our plans.

Risks Related to Our Reliance on Third Parties

We rely on third parties for aspects of product development.

We rely on third parties such as the U.S. Army for certain aspects of product development. We have worked with the U.S. Army for research and development of product candidates to treat *S. aureus* infections. Because we rely on third parties to conduct these activities, we have less control over the success of these programs than we would if we were conducting them on our own. Factors beyond our control that could impact the success of these programs include the amount of resources devoted to the programs by the applicable third party, the staffing of those projects by third-party personnel, and the amount of time such personnel devote to our programs compared to other programs. Failure of our third-party collaborators to successfully complete the projects that we are working on with them could result in delays in product development and the need to expend additional resources, increasing our expenses beyond current expectations.

We will rely on third parties to conduct our clinical trials, and their failure to perform their obligations in a timely or competent manner may delay development and commercialization of our product candidates.

We expect to use third parties, such as clinical research organizations or the U.S. Army, to assist in conducting our clinical trials. However, we may face delays outside of our control if these parties do not perform their obligations in a timely or competent fashion or if we are forced to change service providers. This risk is heightened for clinical trials conducted outside of the United States, where it may be more difficult to ensure that clinical trials are conducted in compliance with FDA requirements. Any third party that we hire to conduct clinical trials may also provide services to our competitors, which could compromise the performance of their obligations to us. If we experience significant delays in the progress of our clinical trials and in our plans to submit Biologics License Applications, the commercial prospects for product candidates could be harmed and our ability to generate product revenue would be delayed or prevented.

Risks Related to Our Intellectual Property

We are dependent on patents and proprietary technology. If we fail to adequately protect this intellectual property or if we otherwise do not have exclusivity for the marketing of our products, our ability to commercialize products could suffer.

Our commercial success will depend in part on our ability to obtain and maintain patent protection sufficient to prevent others from marketing our product candidates, as well as to defend and enforce these patents against infringement and to operate without infringing the proprietary rights of others. Protection of our product candidates from unauthorized use by third parties will depend on having valid and enforceable patents cover our product candidates or their manufacture or use, or having effective trade secret protection. If our patent applications do not result in issued patents, or if our patents are found to be invalid, we will lose the ability to exclude others from making, using or selling the inventions claimed therein. We have a limited number of patents and pending patent applications.

The patent positions of biotechnology companies can be uncertain and involve complex legal and factual questions. This is due to inconsistent application of policy and changes in policy relating to examination and enforcement of biotechnology patents to date on a global scale. The laws of some countries may not protect intellectual property rights to the same extent as the laws of countries having well-established patent systems, and those countries may lack adequate rules and procedures for defending our intellectual property rights. Also, changes in either patent laws or in interpretations of patent laws may diminish the value of our intellectual property. We are not able to guarantee that all of our patent applications will result in the issuance of patents and we cannot predict the breadth of claims that may be allowed in our patent applications or in the patent applications we may license from others.

Central provisions of The Leahy-Smith America Invents Act, or the America Invents Act went into effect on September 16, 2012 and on March 16, 2013. The America Invents Act includes a number of significant changes to U.S. patent law. These changes include provisions that affect the way patent applications are being filed, prosecuted and litigated. For example, the America Invents Act enacted proceedings involving post-issuance patent review procedures, such as inter partes review, or IPR, and post-grant review, that allow third parties to challenge the validity of an issued patent in front of the United States Patent and Trademark Office (“U.S. PTO”) Patent Trial and Appeal Board. Each proceeding has different eligibility criteria and different patentability challenges that can be raised. IPRs permit any person (except a party who has been litigating the patent for more than a year) to challenge the validity of the patent on the grounds that it was anticipated or made obvious by prior art. Patents covering pharmaceutical products have been subject to attack in IPRs from generic drug companies and from hedge funds. If it is within nine months of the issuance of the challenged patent, a third party can petition the U.S. PTO for post-grant review, which can be based on any invalidity grounds and is not limited to prior art patents or printed publications.

In post-issuance proceedings, U.S. PTO rules and regulations generally tend to favor patent challengers over patent owners. For example, unlike in district court litigation, claims challenged in post-issuance proceedings are given their broadest reasonable meaning, which increases the chance a claim might be invalidated by prior art or lack support in the patent specification. As another example, unlike in district court litigation, there is no presumption of validity for an issued patent, and thus, a challenger’s burden to prove invalidity is by a preponderance of the evidence, as opposed to the heightened clear and convincing evidence standard. As a result of these rules and others, statistics released by the U.S. PTO show a high percentage of claims being invalidated in post-issuance proceedings. Moreover, with few exceptions, there is no standing requirement to petition the U.S. PTO for inter partes review or post-grant review. In other words, companies that have not been charged with infringement or that lack commercial interest in the patented subject matter can still petition the U.S. PTO for review of an issued patent. Thus, even where we have issued patents, our rights under those patents may be challenged and ultimately not provide us with sufficient protection against competitive products or processes.

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The degree of future protection for our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

- we might not be the first to file patent applications for our inventions;
- others may independently develop similar or alternative product candidates to any of our product candidates that fall outside the scope of our patents;
- our pending patent applications may not result in issued patents;
- our issued patents may not provide a basis for commercially viable products or may not provide us with any competitive advantages or may be challenged by third parties;
- others may design around our patent claims to produce competitive products that fall outside the scope of our patents;
- we may not develop additional patentable proprietary technologies related to our product candidates; and
- we are dependent upon the diligence of our appointed agents in national jurisdictions, acting for and on our behalf, which control the prosecution of pending domestic and foreign patent applications and maintain granted domestic and foreign patents.

An issued patent does not guarantee us the right to practice the patented technology or commercialize the patented product. Third parties may have blocking patents that could be used to prevent us from commercializing our patented products and practicing our patented technology. Our issued patents and those that may be issued in the future may be challenged, invalidated or circumvented, which could limit our ability to prevent competitors from marketing the same or related product candidates or could limit the length of the term of patent protection of our product candidates. Moreover, because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that, before any of our product candidates can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thereby reducing any advantage of the patent. Patent term extensions may not be available for these patents.

We rely on trade secrets and other forms of non-patent intellectual property protection. If we are unable to protect our trade secrets, other companies may be able to compete more effectively against us.

We rely on trade secrets to protect certain aspects of our technology, including our proprietary processes for manufacturing and purifying bacteriophages. Trade secrets are difficult to protect, especially in the pharmaceutical industry, where much of the information about a product must be made public during the regulatory approval process. Although we use reasonable efforts to protect our trade secrets, our employees, consultants, contractors, outside scientific collaborators and other advisors may unintentionally or willfully disclose our information to competitors. Enforcing a claim that a third party illegally obtained and is using our trade secret information is expensive and time-consuming, and the outcome is unpredictable. In addition, courts outside the United States may be less willing to or may not protect trade secrets. Moreover, our competitors may independently develop equivalent knowledge, methods and know-how.

If we are sued for infringing intellectual property rights of third parties or if we are forced to engage in an interference proceeding, it will be costly and time-consuming, and an unfavorable outcome in that litigation or interference would have a material adverse effect on our business.

Our ability to commercialize our product candidates depends on our ability to develop, manufacture, market and sell our product candidates without infringing the proprietary rights of third parties. Numerous United States and foreign patents and patent applications, which are owned by third parties, exist in the general field of anti-infective products or in fields that otherwise may relate to our product candidates. If we are shown to infringe, we could be enjoined from use or sale of the claimed invention if we are unable to prove that the patent is invalid. In addition, because patent applications can take many years to issue, there may be currently pending patent applications, unknown to us, which may later result in issued patents that our product candidates may infringe, or which may trigger an interference proceeding regarding one of our owned or licensed patents or applications. There could also be existing patents of which we are not aware that our product candidates may inadvertently infringe or which may become involved in an interference proceeding.

The biotechnology and pharmaceutical industries are characterized by the existence of a large number of patents and frequent litigation based on allegations of patent infringement. For so long as our product candidates are in clinical trials, we believe our clinical activities fall within the scope of the exemptions provided by 35 U.S.C. Section 271(e) in the United States, which exempts from patent infringement liability activities reasonably related to the development and submission of information to the FDA. As our clinical investigational drug product candidates progress toward commercialization, the possibility of a patent infringement claim against us increases. While we attempt to ensure that our active clinical investigational drugs and the methods we employ to manufacture them, as well as the methods for their use we intend to promote, do not infringe other parties' patents and other proprietary rights, we cannot be certain they do not, and competitors or other parties may assert that we infringe their proprietary rights in any event.

We may be exposed to future litigation based on claims that our product candidates, or the methods we employ to manufacture them, or the uses for which we intend to promote them, infringe the intellectual property rights of others. Our ability to manufacture and commercialize our product candidates may depend on our ability to demonstrate that the manufacturing processes we employ and the use of our product candidates do not infringe third-party patents. If third-party patents were found to cover our product candidates or their use or manufacture, we could be required to pay damages or be enjoined and therefore unable to commercialize our product candidates, unless we obtained a license. A license may not be available to us on acceptable terms, if at all.

Risks Related to Our Industry

If our competitors are able to develop and market products that are more effective, safer or more affordable than ours, or obtain marketing approval before we do, our commercial opportunities may be limited.

Competition in the biotechnology and pharmaceutical industries is intense and continues to increase. Some companies that are larger and have significantly more resources than we do are aggressively pursuing antibacterial development programs, including traditional therapies and therapies with novel mechanisms of action. In addition, other companies are developing phage-based products for non-therapeutic uses, and may elect to use their expertise in phage development and manufacturing to try to develop products that would compete with ours.

We also face potential competition from academic institutions, government agencies and private and public research institutions engaged in the discovery and development of drugs and therapies. Many of our competitors have significantly greater financial resources and expertise in research and development, preclinical testing, conducting clinical trials, obtaining regulatory approvals, manufacturing, sales and marketing than we do. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established pharmaceutical companies.

Our competitors may succeed in developing products that are more effective, have fewer side effects and are safer or more affordable than our product candidates, which would render our product candidates less competitive or noncompetitive. These competitors also compete with us to recruit and retain qualified scientific and management personnel, establish clinical trial sites and patient registration for clinical trials, as well as to acquire technologies and technology licenses complementary to our programs or advantageous to our business. Moreover, competitors that are able to achieve patent protection, obtain regulatory approvals and commence commercial sales of their products before we do, and competitors that have already done so, may enjoy a significant competitive advantage.

The Generating Antibiotics Incentives Now Act is intended to provide incentives for the development of new, qualified infectious disease products. These incentives may result in more competition in the market for new antibiotics, and may cause pharmaceutical and biotechnology companies with more resources than we have to shift their efforts towards the development of products that could be competitive with our product candidates.

There is a substantial risk of product liability claims in our business. If we do not obtain sufficient liability insurance, a product liability claim could result in substantial liabilities.

Our business exposes us to significant potential product liability risks that are inherent in the development, manufacturing and marketing of human therapeutic products. Regardless of merit or eventual outcome, product liability claims may result in:

- delay or failure to complete our clinical trials;
- withdrawal of clinical trial participants;
- decreased demand for our product candidates;
- injury to our reputation;
- litigation costs;
- substantial monetary awards against us; and
- diversion of management or other resources from key aspects of our operations.

If we succeed in marketing products, product liability claims could result in an FDA investigation of the safety or efficacy of our products, our manufacturing processes and facilities or our marketing programs. An FDA investigation could also potentially lead to a recall of our products or more serious enforcement actions, or limitations on the indications, for which they may be used, or suspension or withdrawal of approval.

We have product liability insurance that covers our clinical trials up to a $10.0 million annual per claim and aggregate limit. We intend to expand our insurance coverage to include the sale of commercial products if marketing approval is obtained for our product candidates or any other compound that we may develop. However, insurance coverage is expensive and we may not be able to maintain insurance coverage at a reasonable cost or at all, and the insurance coverage that we obtain may not be adequate to cover potential claims or losses.

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Even if we receive regulatory approval to market our product candidates, the market may not be receptive to our product candidates upon their commercial introduction, which would negatively affect our ability to achieve profitability.

Our product candidates may not gain market acceptance among physicians, patients, healthcare payors and the medical community. The degree of market acceptance of any approved products will depend on a number of factors, including:

- the effectiveness of the product;
- the prevalence and severity of any side effects;
- potential advantages or disadvantages over alternative treatments;
- relative convenience and ease of administration;
- the strength of marketing and distribution support;
- the price of the product, both in absolute terms and relative to alternative treatments; and
- sufficient third-party coverage or reimbursement.

If our product candidates receive regulatory approval but do not achieve an adequate level of acceptance by physicians, healthcare payors and patients, we may not generate product revenues sufficient to attain profitability.

Foreign governments tend to impose strict price controls, which may adversely affect our future profitability.

In some foreign countries, particularly in the European Union, prescription drug pricing is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product candidate to other available therapies. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at

unsatisfactory levels, our profitability will be negatively affected.

We may incur significant costs complying with environmental laws and regulations, and failure to comply with these laws and regulations could expose us to significant liabilities.

Our research and development activities use biological and hazardous materials that are dangerous to human health and safety or the environment. We are subject to a variety of federal, state and local laws and regulations governing the use, generation, manufacture, storage, handling and disposal of these materials and wastes resulting from these materials. We are also subject to regulation by the Occupational Safety and Health Administration, or OSHA, state and federal environmental protection agencies and to regulation under the Toxic Substances Control Act. OSHA, state governments or federal Environmental Protection Agency, or EPA, may adopt regulations that may affect our research and development programs. We are unable to predict whether any agency will adopt any regulations that could have a material adverse effect on our operations. We have incurred, and will continue to incur, capital and operating expenditures and other costs in the ordinary course of our business in complying with these laws and regulations.

Although we believe our safety procedures for handling and disposing of these materials comply with federal, state and local laws and regulations, we cannot entirely eliminate the risk of accidental injury or contamination from the use, storage, handling or disposal of hazardous materials. In the event of contamination or injury, we could be held liable for any resulting damages, and any liability could significantly exceed our insurance coverage.

Risks Related to Our Common Stock

The price of our common stock has been and may continue to be volatile.

The stock markets in general, the markets for biotechnology stocks and, in particular, the stock price of our common stock, have experienced extreme volatility. The market for our common stock is characterized by significant price volatility when compared to the shares of larger, more established companies that trade on a national securities exchange and have large public floats, and we expect that our share price will continue to be more volatile than the shares of such larger, more established companies for the indefinite future. The volatility in our share price is attributable to a number of factors. Our common shares are, compared to the shares of such larger, more established companies, sporadically and thinly traded. As a consequence of this limited liquidity, the trading of relatively small quantities of shares by our stockholders may disproportionately influence the price of those shares in either direction. The price for our shares could, for example, decline precipitously in the event that a large number of shares of our common stock are sold on the market without commensurate demand. We are also a speculative or “risky” investment due to the early stage of our drug development programs and our lack of profits to date, and uncertainty of future market acceptance for our potential products and our ability to continue as a going concern. As a consequence of this enhanced risk, more risk-adverse investors may, under the fear of losing all or most of their investment in the event of negative news or lack of progress, be more inclined to sell their shares on the market more quickly and at greater discounts than would be the case with the stock of a larger, more established company that has a large public float and

broader stockholder base. Many of these factors are beyond our control and may decrease the market price of our common stock, regardless of our operating performance. We cannot make any predictions or projections as to what the prevailing market price for our common shares will be at any time, including as to whether our common stock will sustain their current market prices, or as to what effect that the sale of shares or the availability of common stock for sale at any time will have on the prevailing market price.

Price declines in our common stock could also result from general market and economic conditions and a variety of other factors, including:

- adverse results or delays in our clinical trials;
- adverse actions taken by regulatory agencies with respect to our product candidates, clinical trials or the manufacturing processes of our product candidates;
- announcements of technological innovations, patents or new products by our competitors;
- regulatory developments in the United States and foreign countries;
- any lawsuit involving us or our product candidates;
- announcements concerning our competitors, or the biotechnology or pharmaceutical industries in general;
- developments concerning any strategic alliances or acquisitions we may enter into;
- actual or anticipated variations in our operating results;
- changes in recommendations by securities analysts or lack of analyst coverage;
- deviations in our operating results from the estimates of analysts;
- our inability, or the perception by investors that we will be unable, to continue to meet all applicable requirements for continued listing of our common stock on the NYSE MKT, and the possible delisting of our common stock;
- sales of our common stock by our executive officers, directors and principal stockholders or sales of substantial amounts of common stock; and
- loss of any of our key scientific or management personnel.

In the past, following periods of volatility in the market price of a particular company's securities, litigation has often been brought against that company. Any such lawsuit could consume resources and management time and attention, which could adversely affect our business.

A significant number of shares of our common stock are subject to issuance upon exercise of outstanding warrants and options, which upon such exercise may result in dilution to our security holders.*

As of June 30, 2017, we had outstanding common warrants to purchase an aggregate of 8,776,267 shares of our common stock at a weighted average exercise price of $3.00 per share, outstanding pre-funded warrants to purchase an aggregate of 199,900 shares of our common stock at an exercise price of $0.01 per share, and outstanding options to exercise 285,276 shares of our common stock at a weighted average exercise price of $9.83 per share. The $3.00 weighted-average exercise price set forth above with respect to the 8,776,267 shares of common stock issuable upon the exercise of outstanding warrants does not take into account the exercise price adjustment that will result under the terms of the warrants issued in November 2016 (currently exercisable for 533,500 shares of common stock in the aggregate at an exercise price of $0.9954 per share) in connection with the potential issuance of 523,210 shares of common stock to the shareholders who are party to the CSIA, if our shareholders approve such issuance at our 2017 annual meeting of shareholders. If our shareholders do approve such issuance at our 2017 annual meeting of shareholders, the exercise price of the November 2016 warrants will be reduced to $0.57 per share following the completion of such issuance. The exercise price and/or the number of shares of common stock issuable upon exercise of the warrants may be further adjusted in certain circumstances, including certain issuances of securities at a price less than the then-current exercise price, subdivisions and stock splits, stock dividends, combinations, reorganizations, reclassifications, consolidations, mergers or sales of properties and assets and upon the issuance of certain assets or securities to holders of our common stock, as applicable. Although we cannot determine when these warrants or options will ultimately be exercised, it is reasonable to assume that such warrants and options will be exercised only if the exercise price is below the market price of our common stock. To the extent any of our outstanding warrants or options are exercised, additional shares of our common stock will be issued that will generally be eligible for resale in the public market (subject to limitations under Rule 144 under the Securities Act for certain of our warrants and with respect to shares held by our affiliates), which will result in dilution to our security holders. The issuance of additional securities could also have an adverse effect on the market price of our common stock.

Provisions of Washington law and our current articles of incorporation and bylaws may discourage another company from acquiring us and may prevent attempts by our stockholders to replace or remove our current management.

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

- authorizing the issuance of "blank check" preferred stock without any need for action by stockholders;
- providing for a classified board of directors with staggered terms;
- requiring supermajority stockholder voting to effect certain amendments to our articles of incorporation and bylaws; and
- establishing advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted on by stockholders at stockholder meetings.

In addition, because we are incorporated in Washington, we are governed by the provisions of Chapter 23B.19 of the Washington Business Corporation Act, which, among other things, restricts the ability of stockholders owning 10% or more of our outstanding voting stock from merging or combining with us. These provisions could discourage potential acquisition attempts and could reduce the price that investors might be willing to pay for shares of our common stock in the future and result in the market price being lower than it would without these provisions.

Although we believe these provisions collectively provide for an opportunity to receive higher bids by requiring potential acquirers to negotiate with our board of directors, they would apply even if an offer may be considered beneficial by some stockholders. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management

We have never paid dividends on our common stock, and we do not anticipate paying any cash dividends on our common stock in the foreseeable future.

We have never declared or paid cash dividends on our common stock. We do not anticipate paying any cash dividends on our common 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. As a result, capital appreciation, if any, of our common stock will be our stockholders' sole source of gain for the foreseeable future.

Maintaining and improving our financial controls and the requirements of being a public company may strain our resources, divert management's attention and affect our ability to attract and retain qualified board members.

As a public company, we are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act and the rules of the NYSE MKT. The requirements of these rules and regulations increase our legal and financial compliance costs, make some activities more difficult, time-consuming or costly and place strain on our personnel, systems and resources. The Exchange Act requires, among other things, that we file annual, quarterly and current reports with respect to our business and financial condition.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. Ensuring that we have adequate internal financial and accounting controls and procedures in place is a costly and time-consuming effort that needs to be re-evaluated frequently.

We currently do not have an internal audit group, and we may need to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge. Implementing any appropriate changes to our internal controls may require specific compliance training for our directors, officers and employees, entail substantial costs to modify our existing accounting systems, and take a significant period of time to complete. Such changes may not, however, be effective in maintaining the adequacy of our internal controls, and any failure to maintain that adequacy, or consequent inability to produce accurate financial statements on a timely basis, could increase our operating costs and could materially impair our ability to operate our business. Moreover, effective internal controls are necessary for us to produce reliable financial reports and are important to help prevent fraud.

In accordance with NYSE MKT rules, we are required to maintain a majority independent board of directors. The various rules and regulations applicable to public companies make it more difficult and more expensive for us to maintain directors' and officers' liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to maintain coverage. If we are unable to maintain adequate directors' and officers' insurance, our ability to recruit and retain qualified officers and directors will be significantly curtailed.

If securities or industry analysts do not publish research or publish 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. We currently have two securities analysts and may never obtain additional research coverage by other securities and industry analysts. If no additional securities or industry analysts commence coverage of our company, the trading price for our stock could be negatively impacted. If we obtain additional securities or industry analyst coverage and if one or more of the analysts who covers us downgrades our stock or publishes inaccurate or unfavorable research about our business, our stock price would likely decline. If one or more of these analysts ceases coverage of us or fails to publish reports on us regularly, demand for our stock could decrease, which could cause our stock price and trading volume to decline.

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 under the JOBS Act. For so long as we are an "emerging growth company," we intend to take advantage of certain exemptions from reporting requirements that are applicable to other public companies that are not "emerging growth companies" including, but not limited to, compliance 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 could be an "emerging growth company" for up to five years, although we may lose such status earlier, depending on the occurrence of certain events. We will remain an "emerging growth company" until the earliest to occur of (i) the last day of the fiscal year (a) following the fifth anniversary of our initial public offering conducted after we became a reporting company under the Exchange Act pursuant to our registration statement on Form 10 (File No. 000-23930), (b) in which we have total annual gross revenue of approximately $1.0 billion or (c) in which we are deemed to be a "large accelerated filer" under the Exchange Act, which means that the market value of our common stock that is held by non-affiliates exceeds $700 million as of June 30th of the prior year, and (ii) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period.

We cannot predict if investors will find our common stock less attractive or our company less comparable to certain other public companies because we will 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.

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

Sales of a substantial number of shares of our common stock in the public market by our existing stockholders could cause our stock price to decline.

Sales of a substantial number of shares of our common stock in the public market or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our common stock.

Certain holders 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 held by our affiliates as defined in Rule 144 under the Securities Act. Any sales of securities by these stockholders could have a material adverse effect on the trading price of our common stock.

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

We expect that significant additional capital will be needed in the future to continue our planned operations, including conducting clinical trials, commercialization efforts, expanded research and development activities and costs associated with operating as a public company. To the extent we raise additional capital by issuing equity or convertible securities, our stockholders may experience substantial dilution. We may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities or other equity securities in more than one transaction, investors may be materially diluted by subsequent sales. Such sales may also result in material dilution to our existing stockholders, and new investors could gain rights superior to our existing stockholders.

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Pursuant to our 2016 Equity Incentive Plan, or the 2016 Plan, our management is authorized to grant stock options and other equity-based awards to our employees, directors and consultants. The number of shares available for future grant under the 2016 Plan will automatically increase on January 1st of each year by up to 5% of all shares of our capital stock outstanding as of December 31st of the preceding calendar year, subject to the ability of our board of directors to take action to reduce the size of the increase in any given year. In addition, we may grant or provide for the grant of rights to purchase shares of our common stock pursuant to our Employee Stock Purchase Plan, or ESPP. The number of shares of our common stock reserved for issuance under the ESPP will automatically increase on January 1st of each calendar year by the lessor of 1% of the total number of shares of our common stock outstanding on December 31st of the preceding calendar year and 30,000 shares, subject to the ability of our board of directors to take action to reduce the size of the increase in any given year. Currently, we plan to register the increased number of shares available for issuance under the 2016 Plan and ESPP each year. In addition, we are seeking approval at our 2017 annual meeting of shareholders of an 800,000 share increase in the number of shares of common stock authorized for issuance under the 2016 Plan. Increases in the number of shares available for future grant or purchase may result in additional dilution, which could cause our stock price to decline.

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

None.

Item 3. Defaults upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

See the Exhibit Index following the signature page of this report, which is incorporated herein by reference.

SIGNATURES

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

AMPLIPHI BIOSCIENCES CORPORATION

Date: August 14, 2017 By /s/ Paul C. Grint, M.D.
Name: Paul C. Grint, M.D.
Title: Chief Executive Officer
(Principal Executive Officer)

By /s/ Steve R. Martin
Name: Steve R. Martin
Title: Chief Financial Officer
(Principal Financial and Accounting Officer)

EXHIBIT INDEX

Number	Description
3.1	Amended and Restated Articles of Incorporation of the Registrant, as amended (incorporated by reference to Exhibit 3.1 to the Quarterly Report on Form 10-Q, filed on November 16, 2015).
3.2	Articles of Amendment to Articles of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K, filed on April 24, 2017).
3.3	Amended and Restated Bylaws of the Registrant, as amended (incorporated by reference to Exhibit 3.2 to the Quarterly Report on Form 10-Q, filed on November 16, 2015).
4.1	Reference is made to Exhibits 3.1, 3.2 and 3.3.
4.2	Form of Common Stock Certificate (incorporated by reference to Exhibit 4.4 to the Registration Statement on Form S-8 (File No. 333-217563), filed on May 1, 2017).
4.3	Form of Warrant to Purchase Shares of Common Stock issued to purchasers in June 2013, July 2013 and December 2013 in connection with private placements (incorporated by reference to Exhibit 4.2 to the Registration Statement on Form 10 (File No. 000-23930), filed December 16, 2013, as amended).
4.4	Subscription Agreement to Purchase Series B Preferred Stock and Common Stock Warrants, dated June 26, 2013 (incorporated by reference to Exhibit 4.3 to the Registration Statement on Form 10 (File No. 000-23930), filed December 16, 2013, as amended).
4.5	Registration Rights Agreement, dated December 16, 2013, by and among the Registrant and certain purchasers of the Registrant's Common Stock (incorporated by reference to Exhibit 4.4 to the Registration Statement on Form 10 (File No. 000-23930), filed December 16, 2013, as amended).
4.6	Subscription Agreement to Purchase Common Stock and Warrants, dated December 16, 2013 (incorporated by reference to Exhibit 4.5 to the Registration Statement on Form 10 (File No. 000-23930), filed December 16, 2013, as amended).
4.7	Subscription Agreement to Purchase Common Stock and Warrants, dated March 10, 2015 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, filed March 19, 2015).
4.8	Form of Common Stock Warrant issued to purchasers in March 2015 private placement (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K, filed March 19, 2015).
4.9	Registration Rights Agreement, dated March 10, 2015, by and among the Registrant and certain purchasers of the Registrant's Common Stock (incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K, filed March 19, 2015).
4.10	

	Form of Amendment to Warrants to Purchase Shares of Common Stock issued to purchasers in June 2013, July 2013 and December 2013 in connection with private placements (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, filed on May 15, 2015).
4.11	Form of Warrant to Purchase Shares of Common Stock issued in connection with the Registrant's acquisition of Biocontrol Ltd in December 2011 (incorporated by reference to Exhibit 4.11 to the Annual Report on Form 10-K, filed on March 30, 2016).
4.12	Form of Warrant to Purchase Shares of Common Stock issued in connection with the issuance of convertible notes of the Registrant in February 2013, March 2013, April 2013 and May 2013 (incorporated by reference to Exhibit 4.12 to the Annual Report on Form 10-K, filed on March 30, 2016).
4.13	Form of Warrant to Purchase Shares of Common Stock issued in connection with the Registrant's acquisition of certain assets of Novolytics Limited in February 2016 (incorporated by reference to Exhibit 4.13 to the Annual Report on Form 10-K, filed on March 30, 2016).
4.14	Form of Warrant to Purchase Common Stock issued to purchasers in May 2016 registered direct offering (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K, filed on June 1, 2016).
4.15	Form of Securities Purchase Agreement (incorporated by reference to Exhibit 99.3 to the Current Report on Form 8-K, filed on June 1, 2016).

4.16	Form of Warrant to Purchase Common Stock issued to purchasers in November 2016 registered direct offering (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K, filed on November 17, 2016).
4.17	Form of Warrant to Purchase Common Stock issued to purchasers in May 2017 (incorporated by reference to Exhibit 4.18 to the Registrant's Registration Statement on Form S-1 (File No. 333-217169)).
4.18	Form of Pre-funded Warrant (incorporated by reference to Exhibit 4.19 to the Registrant's Registration Statement on Form S-1 (File No. 333-217169)).
10.1+	Amendment to Offer Letter Agreement, dated April 1, 2017, by and between the Registrant and M. Scott Salka (incorporated by reference to Exhibit 99.1 to the Registrant's Current Report on Form 8-K, filed on April 4, 2017).
10.2+	Amendment to Offer Letter Agreement, dated April 1, 2017, by and between the Registrant and Igor P. Bilinsky, Ph.D. (incorporated by reference to Exhibit 99.2 to the Current Report on Form 8-K, filed on April 4, 2017).
10.3+	Amendment to Offer Letter Agreement, dated April 1, 2017, by and between the Registrant and Steve R. Martin (incorporated by reference to Exhibit 99.3 to the Current Report on Form 8-K, filed on April 4, 2017).
10.4+	Separation and Consulting Agreement, dated May 30, 2017, by and between the Registrant and M. Scott Salka.
10.5+	Offer Letter, dated June 1, 2017, by and between the Registrant and Paul C. Grint, M.D.
10.6	First Amendment to Common Stock Issuance Agreement, dated June 27, 2017, by and among the Registrant and the persons and entities listed on Exhibit A thereto (incorporated by reference to Exhibit 99.1 to the Current Report on Form 8-K, filed on June 30, 2017).
31.1	Certification of Principal Executive Officer required by Rule 13a-14(a) or Rule 15d-14(a).
31.2	Certification of Principal Financial Officer required by Rule 13a-14(a) or Rule 15d-14(a).
32.1	Certification of Principal Executive Officer Required by Rule 13a-14(b) or Rule 15d-14(b) and 18 U.S.C. 1350.
32.2	Certification of Principal Financial Officer Required by Rule 13a-14(b) or Rule 15d-14(b) and 18 U.S.C. 1350.
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.

101.DEF XBRL Taxonomy Extension Definition Linkbase Document.

101.PRE XBRL Taxonomy Extension Presentation Linkbase Document.

101.LAB XBRL Taxonomy Extension Label Linkbase Document.

+ Indicates management contract or compensatory plan.