

AmpliPhi Biosciences Corp
Form S-1
April 06, 2017

As filed with the Securities and Exchange Commission on April 6, 2017

Registration No. 333-

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

**FORM S-1
REGISTRATION STATEMENT
UNDER
*THE SECURITIES ACT OF 1933***

AmpliPhi Biosciences Corporation

(Exact Name of Registrant as Specified in Its Charter)

Washington
(State or Other Jurisdiction of
Incorporation or Organization)

2836
(Primary Standard Industrial
Classification Code Number)

91-1549568
(I.R.S. Employer
Identification Number)

**3579 Valley Centre Drive, Suite 100
San Diego, California 92130
(858) 829-0829**

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

M. Scott Salka
Chief Executive Officer
AmpliPhi Biosciences Corporation
3579 Valley Centre Drive, Suite 100
San Diego, California 92130
(858) 829-0829

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended (the Securities Act), check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

M. Scott Salka Chief Executive Officer AmpliPhi Biosciences Corporation 3579 Valley Centre Drive, Suite 100 San Diego, California 92130 (858) 829-0829

offering. o

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

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company

CALCULATION OF REGISTRATION FEE

| Title of each class of securities to be registered ⁽¹⁾ | Proposed maximum aggregate offering price ⁽²⁾ | Amount of registration fee |
|---|--|----------------------------|
| Common Stock, \$0.01 par value per share | | |
| Warrants to purchase shares of common stock | | |
| Total | \$ 8,280,000 | \$ 960 |

The securities registered hereunder also include the shares of common stock as may be issued upon exercise of warrants registered hereby. Pursuant to Rule 416, the securities being registered hereunder include such (1) indeterminate number of additional securities as may be issuable to prevent dilution resulting from stock splits, stock dividends or similar transactions.

Estimated solely for the purpose of calculating the amount of the registration fee in accordance with Rule 457(o) (2) under the Securities Act. Includes the offering price of any additional securities that the underwriters have the option to purchase.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment that specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and we are not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS

SUBJECT TO COMPLETION, DATED APRIL 6, 2017

Shares of Common Stock

Warrants to Purchase

Shares of Common Stock

We are offering _____ shares of our common stock and warrants to purchase an aggregate of _____ shares of our common stock (and the shares of common stock that are issuable from time to time upon exercise of the warrants). Each share of common stock is being sold together with a warrant to purchase _____ of a share of our common stock (which equates to _____ % warrant coverage on the shares purchased in this offering), at an exercise price of \$ _____ per share. The warrants will be exercisable immediately and will expire _____ years from the date of issuance. The shares of common stock and _____ warrants can only be purchased together in this offering but will be issued separately and will be immediately separable upon issuance. Our common stock is listed on the NYSE MKT under the symbol APHB. On April 5, 2017, the last reported sale price of our common stock on the NYSE MKT was \$0.415 per share. The public offering price _____ per share and accompanying warrant will be determined between us and the underwriter at the time of pricing, and may be at a discount to the current market price. There is no established public trading market for the warrants, and we do not expect a market to develop. In addition, we do not intend to apply for a listing of the warrants on any national securities exchange.

We are an emerging growth company as that term is used in the Jumpstart Our Business Startups Act of 2012 and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings.

| | Per Share and Accompanying Warrant | Total |
|---|--|-------|
| Public offering price ⁽¹⁾ | \$ | \$ |
| Underwriting discounts and commissions ⁽²⁾ | \$ | \$ |
| Proceeds, before expenses, to us | \$ | \$ |

(1) The public offering price is \$ _____ per share of common stock and \$0.01 per accompanying warrant.

(2) In addition, we have agreed to reimburse the underwriter for certain expenses. See Underwriting beginning on page 19 of this prospectus for additional information.

The offering is being underwritten on a firm commitment basis. We have granted the underwriter an option for a period of 30 days from the date of this prospectus to purchase up to an additional _____ shares of our common stock at a price of \$ _____ per share and/or warrants to purchase up to an aggregate of _____ shares of common stock at a price of \$ _____

per warrant, to cover over-allotments, if any.

Investing in our securities involves a high degree of risk. See the section entitled Risk Factors beginning on page 6 of this prospectus and elsewhere in this prospectus for a discussion of information that should be considered in connection with an investment in our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The underwriter expects to deliver the shares of common stock and warrants to purchasers on or about _____, 2017.

Sole Book-Running Manager

**Rodman & Renshaw
a unit of H.C. Wainwright & Co.**

The date of this prospectus is _____, 2017

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We have not, and the underwriter has not, authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the securities offered hereby, and only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus or in any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of our securities. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside the United States: We have not, and the underwriter has not, done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus outside the United States.

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PROSPECTUS SUMMARY

*This summary highlights information contained in other parts of this prospectus or incorporated by reference into this prospectus from our filings with the Securities and Exchange Commission, or SEC, listed in the section of the prospectus entitled *Incorporation of Certain Information by Reference*. Because it is only a summary, it does not contain all of the information that you should consider before purchasing our securities in this offering and it is qualified in its entirety by, and should be read in conjunction with, the more detailed information appearing elsewhere or incorporated by reference into this prospectus. You should read the entire prospectus, the registration statement of which this prospectus is a part, and the information incorporated by reference herein in their entirety, including the *Risk Factors* and our financial statements and the related notes incorporated by reference into this prospectus, before purchasing our securities in this offering. Unless the context requires otherwise, references in this prospectus to AmpliPhi, we, us and our refer to AmpliPhi Biosciences Corporation together with its wholly owned subsidiaries.*

Overview

Our Company

We are a biotechnology company focused on the discovery, development and commercialization of novel phage therapeutics. Phage therapeutics use bacteriophages, a family of viruses, to kill pathogenic bacteria. Phages have powerful and highly selective mechanisms of action that permit them to target 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 their discovery 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 include bacteria that cause skin, bone, lung and bloodstream infections (e.g., *Staphylococcus aureus*, or *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., *A. baumannii*, *P. aeruginosa*, and *K. pneumoniae*), meningitis (e.g., *S. pneumoniae*), urinary tract and gastrointestinal infections (e.g., *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 for the treatment of *S. aureus* infections, including MRSA, *P. aeruginosa* infections, and *C. difficile* infections.

We believe our bacteriophage technology may have unique application in the area of personalized medicine. In particular, we believe our bacteriophage technology can be used to develop personalized, 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 customize 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. We continue to explore opportunities to leverage our bacteriophage technology and customization capabilities.

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Risks Associated with Our Business and this Offering

Our business and our ability to implement our business strategy are subject to numerous risks, as more fully described in the section entitled "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2016, incorporated herein by reference. You should read these risks before you invest in our securities. We may be unable, for many reasons, including those that are beyond our control, to implement our business strategy. In particular, risks associated with our business include:

There is substantial doubt about our ability to continue as a going concern, which may affect our ability to obtain future financing and may require us to curtail our operations. We will need to raise additional capital to continue our operations.

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.

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.

We may be required to issue a significant number of additional shares of common stock for no additional consideration to certain of our stockholders in connection with our November 2016 public offering as well as the closing of this offering; we may not be able to satisfy our potential contractual obligation to issue these shares.

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.

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.

If you purchase our securities in this offering, you will incur immediate and substantial dilution.

We will have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Corporate and Other Information

We were incorporated under the laws of the State of Washington in March 1989 as a wholly owned subsidiary of Immunex Corporation and began operations as an independent company in 1992 as Targeted Genetics Corporation.

In January 2011, we completed the acquisition of Biocontrol Ltd, an antimicrobial biotechnology company based in the United Kingdom, with the goal of developing their phage therapy programs using funding from the sale of our legacy gene therapy assets.

In February 2011, we changed our name to AmpliPhi Biosciences Corporation.

In November 2012, we completed the acquisition of Special Phage Holdings Pty Ltd, a company based in Australia, which we refer to as SPH, with the goal of combining SPH's research on addressing the rapidly escalating problem of antibiotic resistance through the development of a series of bacteriophage-based treatments into our own development programs.

In August 2015, we effected a 1-for-50 reverse split of our common stock. The share and per share information for transactions described in this prospectus that occurred prior to the reverse split have been adjusted to give retroactive effect to the reverse split.

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Our principal executive offices are located at 3579 Valley Centre Drive, Suite 100, San Diego, California 92130. The telephone number at our principal executive office is (858) 829-0829. Our website address is *<http://www.ampliphio.com>*. Our website and the information contained on, or that can be accessed through,

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our website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus. You should not rely on our website or any such information in making your decision whether to purchase our securities in this offering.

This prospectus contains references to our trademarks and to trademarks and trade names belonging to other entities. Solely for convenience, trademarks and trade names referred to in this prospectus, including logos, artwork and other visual displays, may appear without the® or™ symbols, but such references are not intended to indicate, in any way, that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We qualify as an emerging growth company as defined in the Jumpstart Our Business Startups Act, or JOBS Act, enacted in April 2012. An emerging growth company may take advantage of reduced reporting requirements that are otherwise applicable to public companies. These provisions include, but are not limited to:

being permitted to present only two years of audited financial statements and only two years of related Management's Discussion and Analysis of Financial Condition and Results of Operations in the documents incorporated by reference into this prospectus;

not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act;

reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration 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 may use these provisions until the last day of our fiscal year following the fifth anniversary of the first sale of our equity securities pursuant to an effective registration statement under the Securities Act of 1933, as amended, or the Securities Act, after we became a reporting company under the Securities Exchange Act of 1934, as amended, or the Exchange Act, pursuant to our registration statement on Form 10 (File No. 000-23930). However, if certain events occur prior to the end of such five-year period, including if we become a large accelerated filer, our annual gross revenues exceed approximately \$1.0 billion or we issue more than \$1.0 billion of non-convertible debt in any three-year period, we will cease to be an emerging growth company prior to the end of such five-year period.

We are also a smaller reporting company as defined in Exchange Act and have elected to take advantage of certain of the scaled disclosures available to smaller reporting companies.

We have elected to take advantage of certain of the reduced disclosure obligations in the registration statement of which this prospectus is a part and may elect to take advantage of other reduced reporting requirements in future filings. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

The JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. We have irrevocably elected not to avail ourselves of this exemption and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

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The Offering

Common stock offered by us in this offering

shares

Warrants offered by us in this offering

Warrants to purchase an aggregate of shares of our common stock. Each share of our common stock is being sold together with a warrant to purchase of a share of our common stock, which equates to % warrant coverage on the shares purchased in this offering. Each warrant will have an exercise price of \$ per share, will be immediately exercisable and will expire on the anniversary of the original issuance date. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the warrants.

Common stock to be outstanding after this offering

shares (assuming none of the warrants issued in this offering are exercised).

Option to purchase additional shares and/or warrants

The underwriter has a 30-day option to purchase up to an additional shares of our common stock at a price of \$ per share and/or warrants to purchase up to shares of our common stock at a price of \$ per warrant, to cover over-allotments, if any.

Use of proceeds

We intend to use the net proceeds from this offering for general corporate purposes, including manufacturing expenses, clinical trial expenses, research and development expenses and general and administrative expenses. See

Use of Proceeds.

Risk factors

You should read the Risk Factors section of this prospectus for a discussion of certain of the factors to consider carefully before deciding to purchase any shares of our common stock and warrants in this offering.

National Securities Exchange Listing

Our common stock is listed on the NYSE MKT under the symbol APHB. We do not intend to list the warrants on any securities exchange or nationally recognized trading system.

The number of shares of our common stock to be outstanding after this offering is based on 16,488,120 shares of common stock outstanding as of December 31, 2016 and assumes the issuance by us of shares of common stock in this offering;

and excludes, as of December 31, 2016:

748,938 shares of common stock issuable upon the exercise of outstanding stock options, at a weighted-average exercise price of \$6.45 per share;

1,640,162 shares of common stock reserved for future issuance under our 2016 Equity Incentive Plan, or the 2016 plan;

87,274 shares of common stock reserved for future issuance under our 2016 Employee Stock Purchase Plan, or the ESPP;

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7,751,376 shares of common stock issuable upon the exercise of outstanding warrants, at a weighted-average exercise price of \$2.29 per share; and

286,846 shares of common stock issuable in connection with the closing of our November 2016 public offering pursuant to the Common Stock Issuance Agreement, dated April 8, 2016, or the CSIA, by and between us and certain of our stockholders, as well as any additional shares that we become required to issue in connection with our November 2016 public offering or the closing of this offering.

The \$2.29 weighted-average exercise price set forth above with respect to the 7,751,376 shares of common stock issuable upon the exercise of outstanding warrants does not take into account any exercise price adjustment that will likely result under the warrants issued in November 2016 (exercisable for 5,335,000 shares of common stock in the aggregate at an exercise price of \$0.75 per share) pursuant to the terms of such warrants in connection with the closing of this offering.

The number of shares we may be required to issue pursuant to the CSIA in connection with our November 2016 public offering and/or the closing of this offering may be in excess of the 286,846 shares described above. See Risk Factors Risks Related to this Offering *We may be required to issue a significant number of additional shares of common stock for no additional consideration to certain of our stockholders in connection with our November 2016 public offering as well as the closing of this offering; we may not be able to satisfy our potential contractual obligation to issue these shares* for additional information.

Unless otherwise indicated, all information contained in this prospectus assumes no exercise by the underwriter of its option to purchase additional shares and/or warrants in this offering.

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RISK FACTORS

Investing in our securities involves a high degree of risk. You should consider carefully the risks described below, together with all of the other information included or incorporated by reference in this prospectus, including the risks and uncertainties discussed under Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2016, before deciding whether to purchase shares of our common stock and warrants in this offering. All of these risk factors are incorporated herein in their entirety. The risks described below and incorporated by reference are material risks currently known, expected or reasonably foreseeable by us. If any of these risks actually materialize, our business, prospects, financial condition, and results of operations could be seriously harmed. This could cause the trading price of our common stock and the value of the warrants to decline, resulting in a loss of all or part of your investment.

Risks Related to this Offering

You will experience immediate and substantial dilution if you purchase securities in this offering.

As of December 31, 2016, our net tangible book deficit was approximately \$(1.0) million, or \$(0.06) per share. Since the price per share of our common stock being offered in this offering is substantially higher than the net tangible book deficit per share of our common stock, you will suffer substantial dilution with respect to the net tangible book value of the common stock you purchase in this offering. Based on the assumed combined public offering price of \$ per share of common stock and accompanying warrant being sold in this offering, and our net tangible book deficit per share as of December 31, 2016, if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of \$ per share with respect to the net tangible book value of the common stock. See the section entitled Dilution for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

We may be required to issue a significant number of additional shares of common stock for no additional consideration to certain of our stockholders in connection with our November 2016 public offering as well as the closing of this offering; we may not be able to satisfy our potential contractual obligation to issue these shares.

In April 2016, we entered into a Common Stock Issuance Agreement, or CSIA, with certain former holders, or the Holders, of our Series B Preferred Stock. The terms of the CSIA may require us to issue shares of common stock for no additional consideration to the Holders in connection with the public offering we completed in November 2016 as well as the closing of this offering. Pursuant to the formula set forth in the CSIA, the Holders may claim that we have an obligation to issue them, in the aggregate, 2,224,078 shares of common stock as a result of the November 2016 public offering. However, under Section 713(a) of the NYSE MKT Company Guide, we are only permitted to issue 286,846 shares to the Holders without further stockholder approval. As of the date of this prospectus, no additional shares have been issued to the Holders in connection with the November 2016 public offering. We may be required to obtain stockholder approval to issue additional shares beyond what we are currently allowed to issue them under Section 713(a) of the NYSE MKT, or provide other forms of consideration to the Holders, as a result of the November 2016 public offering or the closing of this offering. Based on the assumed public offering price per share of common

stock in this offering of \$ (which is based on the last reported sale price of our common stock on the NYSE MKT on , 2017), we may become obligated to issue the Holders an aggregate of shares of common stock in connection with the closing of this offering. However, under the rules of the NYSE MKT, the maximum number of shares we can issue to the Holders pursuant to their rights under the CSIA is 286,846 shares, unless we obtain stockholder approval to issue shares in excess of this amount. Our inability to comply in full with our potential obligation under the CSIA to issue shares to the Holders in connection with the closing of this offering could have adverse consequences, including, without limitation:

the Holders may bring an action against us for breach of contract, or threaten to bring an action against us, either of which could require us to expend significant time and resources to resolve the matter, and we may not be successful; we may need to seek approval from our stockholders in order to issue additional shares to the Holders, which would require us to expend time and resources, and our stockholders may not ultimately approve such issuance; and

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we may need to provide other consideration to the Holders to settle potential claims arising from our inability to satisfy our potential contractual obligations under the CSIA, which could involve: cash make-whole payments, which in turn would impact our expected use of the net proceeds from this offering and deplete our cash resources faster than we would otherwise anticipate; and other unfavorable terms that could make it difficult for us to raise financing in the future, which would raise further doubts about our ability to continue as a going concern.

The occurrence of any of the foregoing, or even the potential for them to occur, could result in a material decline in our stock price.

Stockholders will incur dilution of their percentage ownership interest in our common stock to the extent we issue additional shares to the Holders pursuant to their rights under the CSIA. In addition, because any such additional shares will be issued for no additional monetary consideration, any such issuance would reduce our net tangible book value per share.

The actual number of shares that we may be required to issue to the Holders pursuant to the provisions of the CSIA in connection with the closing of this offering will depend on the actual public offering price per share of common stock in this offering. A \$0.10 decrease from the assumed public offering price of \$ per share of common stock would increase the number of shares we may need to issue to the Holders in connection with the closing of this offering by shares, or shares in the aggregate.

There is no public market for the warrants being offered in this offering.

There is no established public trading market for the warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the warrants on any securities exchange or nationally recognized trading system, including the NYSE MKT. Without an active market, the liquidity of the warrants will be limited.

We will have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering, including for any of the purposes described in the section entitled Use of Proceeds, and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our management may not apply the net proceeds from this offering in ways that ultimately increase the value of your investment. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

There may be future sales of our securities or other dilution of our equity, which may adversely affect the market price of our common stock.

We are generally not restricted from issuing additional common stock, including any securities that are convertible into or exchangeable for, or that represent the right to receive, common stock. The market price of our common stock

could decline as a result of sales of common stock or securities that are convertible into or exchangeable for, or that represent the right to receive, common stock after this offering or the perception that such sales could occur.

Holders of warrants purchased in this offering will have no rights as common stockholders until such holders exercise their warrants and acquire our common stock.

Until holders of warrants acquire shares of our common stock upon exercise of the warrants, holders of warrants will have no rights with respect to the shares of our common stock underlying such warrants. Upon exercise of the warrants, the holders will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

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Even if this offering is successful, we will need to raise additional capital in the future to continue operations, which may not be available on acceptable terms, or at all. Failure to obtain this necessary capital when needed may force us to delay, limit or terminate our product development efforts or other operations.

We have had recurring losses from operations, negative operating cash flow and an accumulated deficit. We do not generate any cash from operations and must raise additional funds in order to continue operating our business. We expect to continue to fund our operations primarily through equity and debt financings in the future. 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. As of December 31, 2016, we had cash and cash equivalents of \$5.7 million. We estimate that we will receive net proceeds of approximately \$ million from the sale of the securities offered by us in this offering, based on the assumed combined public offering price of \$ per share and accompanying warrant (the last reported sale price of our common stock on the NYSE MKT on , 2017), and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, and excluding the proceeds, if any, from the exercise of the warrants issued in this offering. We currently anticipate that our existing resources, together with the expected net proceeds from this offering, will be sufficient to fund our planned operations until 2017. In the event of a decrease in the net proceeds to us from this offering as a result of a decrease in the assumed public offering price or the number of shares offered by us, based on the assumptions discussed in Use of Proceeds , we would expect that our existing resources, together with such reduced expected net proceeds from this offering, would be sufficient to fund our planned operations until 2017.

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;
- the cost and timing of securing manufacturing capabilities for our clinical product candidates and commercial products, if any;
- the terms and timing of any collaborative, licensing, acquisition or other arrangements that we may establish;
- 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 funds through arrangements with collaborators or others that may require us to relinquish rights to the products 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.

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Holders of warrants purchased in this offering will have no rights as commonstockholders until such holder exercises

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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, the success of our preclinical studies and clinical trials and other product development activities, 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 at all. Raising additional capital through the sale of securities could cause significant dilution to our stockholders. 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.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain forward-looking statements. The forward-looking statements are contained principally in the sections entitled Prospectus Summary, Risk Factors, Management's Discussion and Analysis of Financial Condition and Results of Operations and Business in this prospectus or the documents incorporated herein by reference. These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- our estimates regarding anticipated operating losses, capital requirements and needs for additional funds;
- our ability to raise additional capital when needed and to continue as a going concern;
- our ability to manufacture, or otherwise secure the manufacture of, sufficient amounts of our product candidates for our preclinical studies and clinical trials;
- our clinical development and other research and development plans and expectations;
- our ability to select combinations of phages to formulate our product candidates;
- the safety and efficacy of our product candidates;
- the anticipated regulatory pathways for our product candidates;
- our ability to successfully complete preclinical and clinical development of, and obtain regulatory approval of our product candidates and commercialize any approved products on our expected timeframes or at all;
- the content and timing of submissions to and decisions made by the U.S. Food and Drug Administration and other regulatory agencies;
- our ability to leverage the experience of our management team;
- our ability to attract and keep management and other key personnel;
- the capacities and performance of our suppliers, manufacturers, contract research organizations and other third parties over whom we have limited control;
- the actions of our competitors and success of competing drugs that are or may become available;
- our expectations with respect to future growth and investments in our infrastructure, and our ability to effectively manage any such growth;
- the size and potential growth of the markets for any of our product candidates, and our ability to capture share in or impact the size of those markets;
- the benefits of our product candidates;
- market and industry trends;
- the number of shares we may ultimately issue to the Holders pursuant to the CSIA in connection with our November 2016 public offering and/or the closing of this offering, and the consequences of our potential inability to comply with our potential contractual obligations under the CSIA;
- the outcome of any litigation in which we or any of our officers or directors may be involved;
- the effects of government regulation and regulatory developments, and our ability and the ability of the third parties with whom we engage to comply with applicable regulatory requirements;
- the accuracy of our estimates regarding future expenses, revenues, capital requirements and need for additional financing;
- our expectations regarding future planned expenditures;

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our ability to achieve and maintain effective internal control over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act;

our expectations regarding the period during which we qualify as an emerging growth company under the JOBS Act; our ability to obtain, maintain and successfully enforce adequate patent and other intellectual property protection of any of our products and product candidates;

our expected use of the net proceeds from this offering; and

our ability to operate our business without infringing the intellectual property rights of others.

In some cases, you can identify these statements by terms such as anticipate, believe, could, estimate, expect, may, plan, potential, predict, project, should, will, would or the negative of those terms, and similar expressions, which convey uncertainty of future events or outcomes. These forward-looking statements reflect our management's beliefs and views with respect to future events and are based on estimates and assumptions as of the date of this prospectus and are subject to risks and uncertainties. We discuss many of these risks in greater detail in the documents incorporated by reference herein, usually under the heading Risk Factors. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

You should carefully read this prospectus, the documents that we incorporate by reference into this prospectus and the documents we reference in this prospectus and have filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in this prospectus by these cautionary statements.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in any forward-looking statements, whether as a result of new information, future events or otherwise.

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USE OF PROCEEDS

We estimate that we will receive net proceeds of approximately \$ million (or approximately \$ million if the underwriter's option to purchase additional shares and/or warrants is exercised in full) from the sale of the securities offered by us in this offering, based on the assumed combined public offering price of \$ per share and accompanying warrant (the last reported sale price of our common stock on the NYSE MKT on , 2017), and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, and excluding the proceeds, if any, from the exercise of the warrants issued in this offering.

A \$0.10 increase (decrease) in the assumed combined public offering price of \$ per share and accompanying warrant would increase (decrease) the net proceeds to us from this offering by approximately \$ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, and excluding the proceeds, if any, from the exercise of the warrants issued in this offering.

Similarly, a one million share increase (decrease) in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the net proceeds to us by approximately \$ million, assuming the assumed combined public offering price of \$ per share and accompanying warrant remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, and excluding the proceeds, if any, from the exercise of the warrants issued in this offering.

We currently intend to use the net proceeds from this offering for general corporate purposes, including manufacturing expenses, clinical trial expenses, research and development expenses and general and administrative expense. See Risk Factors for a discussion of certain risks that may affect our intended use of the net proceeds from this offering. In addition, in accordance with the terms of the amended offer letter agreements between us and M. Scott Salka, our Chief Executive Officer, Igor P. Bilinsky, Ph.D., our Chief Operating Officer, and Steve R. Martin, our Chief Financial Officer, if the gross proceeds from this offering exceed \$4.0 million, we have agreed to pay the foregoing officers, in the aggregate, an amount equal to 3.5% multiplied by the gross proceeds from this offering, as more fully described in our current report on Form 8-K, filed with the SEC on April 4, 2017.

We may also use a portion of the net proceeds from this offering to in-license, acquire, or invest in complementary businesses, technologies, products or assets. However, we have no current plans, commitments or obligations to do so.

Our expected use of net proceeds from this offering represents our current intentions based upon our present plans and business condition. As of the date of this prospectus, we cannot currently allocate specific percentages of the net proceeds that we may use for the purposes specified above, and we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering, or the amounts that we will actually spend on the uses set forth above. The amounts and timing of our actual use of the net proceeds will vary depending on numerous factors, including our ability to obtain additional financing, the progress, cost and results of our preclinical and clinical development programs, and whether we are able to enter into future licensing or collaboration arrangements. We may find it necessary or advisable to use the net proceeds for other purposes, and our management will have broad discretion in the application of the net proceeds, and investors will be relying on our judgment regarding the application of the net proceeds from this offering.

Pending the use of the net proceeds from this offering, we intend to invest the net proceeds in investment-grade, interest-bearing instruments.

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Our historical net tangible book deficit as of December 31, 2016 was approximately \$(1.0) million, or \$(0.06) per share of common stock. Our historical net tangible book deficit is the amount of our total tangible assets less our liabilities. Historical net tangible book deficit per common share is our historical net tangible book deficit divided by the number of shares of common stock outstanding as of December 31, 2016.

After giving effect to (1) the sale of shares of our common stock and warrants to purchase an aggregate of shares of our common stock in this offering at the assumed combined public offering price of \$ per share of common stock and accompanying warrant (the last reported sale price of our common stock as reported on the NYSE MKT on , 2017), and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, and excluding the proceeds, if any, from the exercise of the warrants issued in this offering, and (2) the issuance by us to the Holders under the CSIA of an aggregate of shares of common stock for no additional consideration (see footnote (1) under the table below), our as adjusted net tangible book value as of December 31, 2016 would have been approximately \$ million, or \$ per share of common stock. This represents an immediate increase in pro forma net tangible book value of \$ per share to our existing stockholders, and an immediate dilution of \$ per share to new investors purchasing securities in this offering at the assumed combined public offering price.

The following table illustrates this dilution on a per share basis:

| | |
|--|----------|
| Assumed combined public offering price per share and accompanying warrant | \$ |
| Historical net tangible book deficit per share as of December 31, 2016 | \$(0.06) |
| Pro forma increase in net tangible book value per share attributable to investors in this offering | |
| Pro forma decrease in net tangible book value per share attributable to issuance of common stock pursuant to the CSIA ⁽¹⁾ | |
| As adjusted net tangible book value per share after this offering | |
| Dilution per share to investors participating in this offering | \$ |

(1) Assumes the issuance of (i) 2,224,078 shares of common stock to the Holders in connection with our public offering in November 2016 and (ii) shares of our common stock to the Holders in connection with the closing of this offering, based on an assumed public offering price per share of common stock of \$, in each case without regard to any limitations on our ability to issue such shares under the rules of the NYSE MKT.

A \$0.10 increase in the assumed combined public offering price of \$ per share and accompanying warrant would increase our as adjusted net tangible book value after this offering by \$ million, or \$ per share, and the dilution per share to investors purchasing securities in this offering would be approximately \$ per share, assuming the issuance by us of 2,224,078 shares of common stock pursuant to the CSIA in connection with our November 2016 public offering and shares of common stock pursuant to the CSIA in connection with the closing of this offering, and that the number of shares of common stock and accompanying warrants offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, and excluding the proceeds, if any, from the exercise of the warrants issued in this offering. Similarly, a \$0.10 decrease in the assumed combined public offering price of \$ per share and accompanying warrant would decrease our as adjusted net tangible book value after this offering by \$ million, or \$ per share, and the dilution per share to investors purchasing securities in this offering would be \$ per share,

assuming the issuance by us of 2,224,078 shares of common stock pursuant to the CSIA in connection with our November 2016 public offering and shares of common stock pursuant to the CSIA in connection with the closing of this offering, and that the number of shares of common stock and accompanying warrants offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, and excluding the proceeds, if any, from the exercise of the warrants issued in this offering.

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We may also increase or decrease the number of shares of common stock and accompanying warrants we are offering from the assumed number of shares of common stock and accompanying warrants set forth above. An increase of 1,000,000 shares of common stock and accompanying warrants in the number of shares of common stock and accompanying warrants offered by us from the assumed number of shares of common stock and accompanying warrants set forth on the cover page of this prospectus would increase our as adjusted net tangible book value after this offering by \$ million, or \$ per share, and the dilution per share to investors purchasing securities in this offering would be approximately \$ per share, assuming the issuance by us of 2,224,078 shares of common stock pursuant to the CSIA in connection with our November 2016 public offering and shares of common stock pursuant to the CSIA in connection with the closing of this offering, and that the combined public offering price remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, and excluding the proceeds, if any, from the exercise of the warrants issued in this offering. Similarly, a decrease of 1,000,000 shares of common stock and accompanying warrants in the number of shares of common stock and accompanying warrants offered by us from the assumed number of shares of common stock and accompanying warrants set forth on the cover page of this prospectus would decrease our as adjusted net tangible book value after this offering by \$ million, or \$ per share, and the dilution per share to investors purchasing securities in this offering would be approximately \$, assuming the issuance by us of 2,224,078 shares of common stock pursuant to the CSIA in connection with our November 2016 public offering and shares of common stock pursuant to the CSIA in connection with the closing of this offering, and that the combined public offering price remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, and excluding the proceeds, if any, from the exercise of the warrants issued in this offering. The information discussed above is illustrative only and will adjust based on the actual public offering price, the actual number of shares and warrants that we offer in this offering, the actual number of shares or other consideration provided to the Holders under the CSIA in connection with our November 2016 public offering as well as the closing of this offering, and other terms of this offering determined at pricing.

If the underwriter exercises in full its option to purchase additional shares of our common stock and/or warrants to purchase an aggregate of shares of our common stock at the combined public offering price of \$ per share of common stock and accompanying warrant, the as adjusted net tangible book value after this offering would have been approximately \$ per share, representing an increase in net tangible book value of \$ per share to existing stockholders and immediate dilution in net tangible book value of \$ per share to investors purchasing securities in this offering at the public offering price.

The foregoing discussion and table does not take into account further dilution to investors in this offering that could occur upon the exercise of outstanding options and warrants, including the warrants offered in this offering, having a per share exercise price less than the public offering price per share in this offering.

The foregoing discussion and table are based on 16,488,120 shares of common stock outstanding as of December 31, 2016, and excludes as of that date:

748,938 shares of common stock issuable upon the exercise of outstanding stock options, at a weighted-average exercise price of \$6.45 per share;

1,640,162 shares of common stock reserved for future issuance under the 2016 plan;

87,274 shares of common stock reserved for future issuance under the ESPP; and

7,751,376 shares of common stock issuable upon the exercise of outstanding warrants, at a weighted-average exercise price of \$2.29 per share.

To the extent that options or warrants outstanding as of December 31, 2016 have been or may be exercised or other shares issued, investors purchasing securities in this offering may experience further dilution. The \$2.29 weighted-average exercise price set forth above with respect to the 7,751,376 shares of common stock issuable upon

the exercise of outstanding warrants does not take into account any exercise price adjustment that will likely result under the warrants issued in November 2016 (exercisable for 5,335,000 shares of common stock in the aggregate at an exercise price of \$0.75 per share) pursuant to the terms of such warrants in connection with the closing of this offering. In addition, we may seek to raise additional capital in the future through the

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sale of equity or convertible debt securities. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

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DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock, certain provisions of our articles of incorporation and bylaws, and certain provisions of Washington law are summaries. The following description is not complete and is subject to and qualified in its entirety by our articles of incorporation and bylaws, which are filed as exhibits to the registration statement of which this prospectus is a part, and by the relevant provisions of the Washington Business Corporation Act.

As of the date of this prospectus, our articles of incorporation authorize us to issue 670,000,000 shares of common stock, par value \$0.01 per share, and 10,000,000 shares of preferred stock, par value \$0.01 per share.

Common Stock

The holders of our common stock are entitled to the following rights:

Voting

Our common stock is entitled to one vote for each share held on all matters submitted to a vote of the stockholders, including the election of directors, and does not have cumulative voting rights. Accordingly, the holders of a majority of the shares of our common stock entitled to vote in any election of directors can elect all of the directors standing for election.

Dividends

Subject to preferences that may be applicable to any then-outstanding preferred stock, the holders of common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding-up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion or subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that are outstanding or that we may designate and issue in the future.

Preferred Stock

Our board of directors has the authority, without further action by the stockholders, to issue 10,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding.

Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of the common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control that may otherwise benefit holders of our common stock and may adversely affect the market price of the common stock and the voting and other rights of the holders of common stock.

There currently are no provisions under our amended and restated articles of incorporation or under any other contractual obligations whereby we are authorized or required to issue or sell shares of preferred stock and we have no present plans to issue any shares of preferred stock.

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Anti-Takeover Effects of Provisions of Our Articles of Incorporation, Our Bylaws and Washington Law

Provisions in our articles of incorporation, our bylaws and under Washington law may delay or prevent an acquisition of us or a change in our management, including transactions in which stockholders might otherwise receive a premium for their shares or transactions that our stockholders might otherwise deem to be in their best interests. These provisions include a classified board of directors and a requirement for the vote of stockholders holding at least two-thirds of all shares of our issued and outstanding capital stock to approve certain changes to our articles of incorporation or certain business combinations. 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. Additionally, 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, prohibits a target corporation, with certain exceptions, from engaging in certain significant business transactions for a period of five years after the share acquisition by an acquiring person, unless (a) the significant business transaction is approved by a majority of the members of the target corporation's board of directors prior to the time of acquisition or (b) the significant business transaction was approved by both the majority of the members of the target corporation's board of directors and approved at a stockholder meeting by at least two-thirds of the outstanding voting shares (excluding the acquiring person's shares or shares over which the acquiring person has voting control) at or subsequent to the acquiring person's share acquisition. An acquiring person is defined as a person or group of persons which beneficially owns 10% or more of the voting securities of the target corporation. Such prohibited transactions may include, among other things:

any merger or consolidation with, disposition of assets to, or issuance or redemption of stock to or from, the acquiring person;

any termination of 5% or more of the employees of the target corporation as a result of the acquiring person's acquisition of 10% or more of the shares; or

allowing the acquiring person to receive any disproportionate benefit as a stockholder.

After the five-year period, a significant business transaction may take place as long as it complies with certain fair price provisions of the statute or is approved by a majority of the votes entitled to be counted within each voting group entitled to vote separately on the transaction (excluding the acquiring person's shares or shares over which the acquiring person has voting control) at an annual or special meeting of stockholders.

NYSE MKT Listing

Our common stock is listed on the NYSE MKT under the symbol APHB.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare. The transfer agent and registrar's address is 250 Royall Street, Canton, MA 02021.

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DESCRIPTION OF SECURITIES WE ARE OFFERING

We are offering (i) shares of our common stock and (ii) warrants to purchase shares of our common stock. Each share of common stock is being sold together with a warrant to purchase of a share of common stock, which equates to % warrant coverage on the shares purchased in this offering. The shares of common stock and warrants will be issued separately. We are also registering the shares of common stock issuable from time to time upon exercise of the warrants offered hereby.

Common Stock

The material terms and provisions of our common stock and each other class of our securities which qualifies or limits our common stock are described under the caption Description of Capital Stock in this prospectus.

Warrants

The following summary of certain terms and provisions of warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the warrant, the form of which is filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of warrant for a complete description of the terms and conditions of the warrants.

Duration and Exercise Price. Each warrant offered hereby will have an initial exercise price per share equal to \$. The warrants will be immediately exercisable and will expire on the anniversary of the original issuance date. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price. The warrants will be issued separately from the common stock, and may be transferred separately immediately thereafter. A warrant to purchase of a share of our common stock will be issued for every one share purchased in this offering, which equates to % warrant coverage on the shares of common stock purchased in this offering.

Exercisability. The warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of the warrant to the extent that the holder would own more than 4.99% of the outstanding common stock immediately after exercise, except that upon at least 61 days prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder's warrants up to 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the warrants. No fractional shares of common stock will be issued in connection with the exercise of a warrant. In lieu of fractional shares, we will either pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price or round up to the next whole share.

Cashless Exercise. If, at the time a holder exercises its warrants, a registration statement registering the issuance of the shares of common stock underlying the warrants under the Securities Act is not then effective or available and an exemption from registration under the Securities Act is not available for the issuance of such shares, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of

shares of common stock determined according to a formula set forth in the warrants.

Transferability. Subject to applicable laws, the warrant may be transferred at the option of the holder upon surrender of the warrant to us together with the appropriate instruments of transfer.

Exchange Listing. We do not intend to list the warrants on any securities exchange or nationally recognized trading system.

Right as a Stockholder. Except as otherwise provided in the warrants or by virtue of such holder's ownership of shares of our common stock, the holders of the warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their warrants.

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UNDERWRITING

We have entered into an underwriting agreement with the H.C. Wainwright & Co., LLC as the sole book-running manager of this offering. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriter, and the underwriter has agreed to purchase from us, shares of our common stock and warrants to purchase shares of our common stock. Our common stock trades on the NYSE MKT under the symbol APHB.

Pursuant to the terms and subject to the conditions contained in the underwriting agreement, we have agreed to sell to the underwriter named below, and the underwriter has agreed to purchase from us, the respective number of shares of common stock and warrants to purchase common stock set forth opposite its name below:

| Underwriter | Number of Shares | Number of Warrants |
|----------------------------|---------------------|-----------------------|
| H.C. Wainwright & Co., LLC | | |
| Total | | |

The underwriting agreement provides that the obligation of the underwriter to purchase the shares of common stock and the warrants to purchase shares of common stock offered by this prospectus is subject to certain conditions. The underwriter is obligated to purchase all of the shares of common stock and the warrants to purchase shares of our common stock offered hereby if any of the securities are purchased.

We have granted the underwriter an over-allotment option. This option, which is exercisable for up to 30 days after the date of this prospectus, permits the underwriter to purchase up to shares of common stock at a price of \$ per share and/or warrants exercisable for up to shares of common stock at a price of \$ per warrant from us to cover over-allotments, if any. If this option is exercised in full, the total gross proceeds will be \$ million, and the total net proceeds to us will be \$ million.

Discounts, Commissions and Expenses

The underwriter proposes to offer the shares of common stock and the accompanying warrants purchased pursuant to the underwriting agreement to the public at the public offering price set forth on the cover page of this prospectus and to certain dealers at that price less a concession not in excess of \$ per share. After this offering, the public offering price and concession may be changed by the underwriter. No such change shall change the amount of proceeds to be received by us as set forth on the cover page of this prospectus.

In connection with the sale of the common stock and warrants to be purchased by the underwriter, the underwriter will be deemed to have received compensation in the form of underwriting commissions and discounts. The underwriter's commissions and discounts will be 6% of the gross proceeds of this offering, or \$ per share of common stock and the accompanying warrant, based on the combined public offering price per share and warrant set forth on the cover page of this prospectus.

The following table shows the underwriting discounts and commissions payable to the underwriter by us in connection with this offering:

| Per | Total |
|-----|-------|
|-----|-------|

| | Combined Share and Warrant | |
|--|----------------------------------|----|
| Public offering price | \$ | \$ |
| Underwriting discounts and commissions payable by us | \$ | \$ |

We have also agreed to pay the underwriter a management fee equal to 1.0% of the gross proceeds raised in this offering and to reimburse the underwriter for reasonable out-of-pocket expenses, including legal fees and expenses, of up to \$100,000. We estimate the total expenses payable by us for this offering to be approximately \$, which amount exclude underwriting discounts, commissions and expenses.

Indemnification

Pursuant to the underwriting agreement, we have agreed to indemnify the underwriter against certain liabilities, including liabilities under the Securities Act, or to contribute to payments that the underwriter or such other indemnified parties may be required to make in respect of those liabilities.

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Lock-Up Agreements

We have agreed not to (i) offer, pledge, issue, sell, contract to sell, purchase, contract to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into or exercisable or exchangeable for our common stock; (ii) enter into any swap or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of shares of common stock; or (iii) file any registration statement with the SEC relating to the offering of any shares of our common stock or any securities convertible into or exercisable or exchangeable for shares of our common stock, without the prior written consent of H.C. Wainwright & Co., LLC for a period of 90 days following the date of this prospectus (the "Lock-up Period"). This consent may be given at any time without public notice. These restrictions on future issuances are subject to exceptions for (i) the issuance of shares of our common stock, warrants and shares of our common stock underlying the warrants sold in this offering, (ii) the issuance of shares of our common stock upon the exercise of outstanding options or warrants or pursuant to certain other rights, (iii) the issuance of shares of our common stock or options to acquire shares of our common stock pursuant to our existing equity incentive plans and (iv) the filing of one or more registration statements on Form S-8 with respect to shares of our common stock underlying our equity incentive plans from time to time.

In addition, subject to certain limited circumstances, each of our directors and executive officers, and certain of our principal stockholders, has entered into a lock-up agreement with the underwriter. Under the lock-up agreements, the directors, executive officers and applicable stockholders may not, directly or indirectly, sell, offer to sell, contract to sell, or grant any option for the sale (including any short sale), grant any security interest in, pledge, hypothecate, hedge, establish an open put equivalent position (within the meaning of Rule 16a-1(h) under the Securities Exchange Act of 1934, as amended, or the Exchange Act), or otherwise dispose of, or enter into any transaction which is designed to or could be expected to result in the disposition of, any shares of our common stock or securities convertible into or exchangeable for shares of our common stock, or publicly announce any intention to do any of the foregoing, without the prior written consent of H.C. Wainwright & Co., LLC, for a period of 90 days from the date of this prospectus. This consent may be given at any time without public notice.

Electronic Distribution

This prospectus may be made available in electronic format on websites or through other online services maintained by the underwriter or by its affiliates. In those cases, prospective investors may view offering terms online and prospective investors may be allowed to place orders online. Other than this prospectus in electronic format, the information on the underwriter's websites or our website and any information contained in any other websites maintained by the underwriter or by us is not part of this prospectus or the registration statement of which this prospectus forms a part, has not been approved and/or endorsed by us or the underwriter in its capacity as underwriter, and should not be relied upon by investors.

Price Stabilization, Short Positions and Penalty Bids

In connection with the offering the underwriters may engage in stabilizing transactions, syndicate covering transactions and penalty bids in accordance with Regulation M under the Exchange Act:

Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum.

Sales by the underwriter of securities in excess of the number of securities the underwriter is obligated to purchase creates a syndicate short position. The underwriter may close out any syndicate short position by purchasing shares in the open market.

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Syndicate covering transactions involve purchases of the common stock in the open market after the distribution has been completed in order to cover syndicate short positions.

Penalty bids permit the underwriter to reclaim a selling concession from a syndicate member when the common stock originally sold by the syndicate member is purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of the common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. These transactions may be discontinued at any time.

Neither we nor the underwriter make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our shares of common stock. In addition, neither we nor the underwriter make any representation that the underwriter will engage in these transactions or that any transaction, if commenced, will not be discontinued without notice.

Other Relationships

From time to time, certain of the underwriter and their affiliates have provided, and may provide in the future, various advisory, investment and commercial banking and other services to us in the ordinary course of business, for which they have received and may continue to receive customary fees and commissions.

We granted the underwriter, (i) for a period of six months from the date of commencement of sales under this prospectus, a right of first refusal to act, among other things, as sole book-running manager for any future public or private equity or debt securities offering by us, and (ii) in the event this offering is not completed, a tail fee equal to 6% of the gross proceeds raised by us from certain investors in any financing transaction consummated within a six-month period.

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LEGAL MATTERS

The validity of the securities being offered by this prospectus will be passed upon for us by Cooley LLP, San Diego, California. The underwriter is being represented by Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., New York, New York.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2016, as set forth in their report (which contains an explanatory paragraph describing conditions that raise substantial doubt about our ability to continue as a going concern as described in Note 2 to the consolidated financial statements), which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act, with respect to the securities being offered by this prospectus. This prospectus does not contain all of the information in the registration statement and its exhibits. For further information with respect to us and the securities offered by this prospectus, we refer you to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

You can read our SEC filings, including the registration statement, over the Internet at the SEC's website at www.sec.gov. You may also read and copy any document we file with the SEC at its public reference facilities at 100 F Street NE, Washington, D.C. 20549. You may also obtain copies of these documents at prescribed rates by writing to the Public Reference Section of the SEC at 100 F Street N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference facilities. You may also request a copy of these filings, at no cost, by writing us at 3579 Valley Centre Drive, Suite 100, San Diego, California 92130 or telephoning us at (858) 829-0829.

We are subject to the information and periodic reporting requirements of the Exchange Act, and we file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information are available for inspection and copying at the public reference room and website of the SEC referred to above. We maintain a website at <http://www.ampliphio.com>. You may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not incorporated by reference in, and is not part of, this prospectus.

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INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus.

We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC (Commission File No. 001-37544):

our annual report on Form 10-K for the year ended December 31, 2016, filed with the SEC on March 27, 2017; our current reports on Form 8-K, filed with the SEC on February 2, 2017 and April 4, 2017; and the description of our common stock contained in our registration statement on Form 8-A, filed with the SEC on August 18, 2015, including all amendments and reports filed for the purpose of updating such description. In addition, all documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, prior to the termination of the offering (excluding any information furnished rather than filed) shall be deemed to be incorporated by reference into this prospectus.

We will provide to each person, including any beneficial owners, to whom a prospectus is delivered, a copy of any or all of the reports or documents that have been incorporated by reference in the prospectus contained in the registration statement but not delivered with the prospectus. We will provide these reports or documents upon written or oral request at no cost to the requester. You should direct any written requests for documents to AmpliPhi Biosciences Corporation, Attn: Chief Financial Officer, 3579 Valley Centre Drive, Suite 100, San Diego, California 92130. You may also telephone us at (858) 829-0829.

In accordance with Rule 412 of the Securities Act, any statement contained in a document incorporated by reference herein shall be deemed modified or superseded to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement.

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Shares of Common Stock

Warrants to Purchase Shares of Common Stock

PROSPECTUS

Sole Book-Running Manager

**Rodman & Renshaw
a unit of H.C. Wainwright & Co.**

, 2017

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PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth all costs and expenses, other than underwriting discounts and commissions, paid or payable by the Registrant, in connection with the sale of the securities being registered under this registration statement. All amounts shown are estimates except for the Securities and Exchange Commission, or SEC, registration fee and the Financial Industry Regulatory Authority, Inc., or FINRA, filing fee.

| | Amount |
|--|--------|
| SEC registration fee | \$ 960 |
| FINRA filing fee | 1,742 |
| Blue-sky qualification fees and expenses | * |
| Legal fees and expenses | * |
| Accounting fees and expenses | * |
| Transfer agent and registrar fees and expenses | * |
| Miscellaneous expenses | * |
| Total | \$ * |

*

To be filed by amendment.

Item 14. Indemnification of Directors and Officers.

The Registrant is incorporated under the laws of the State of Washington. Sections 23B.08.510 and 23B.08.570 of the Washington Business Corporation Act authorize Washington corporations to indemnify directors and officers under certain circumstances against expenses (including legal expenses) and liabilities incurred in legal proceedings in which they are involved by reason of being a director or officer, as applicable. Section 23B.08.560 of the Washington Business Corporation Act authorizes a corporation, if authorized by its articles of incorporation or by a provision in the corporation's bylaws approved by its stockholders, to indemnify or agree to indemnify a director made a party to a proceeding, or obligate itself to advance or reimburse expenses incurred in a proceeding, without regard to the limitations imposed by Sections 23B.08.510 through 23B.08.550; provided that no such indemnity shall indemnify any director from or on account of (a) acts or omissions of the director finally adjudged to be intentional misconduct or a knowing violation of law, (b) conduct of the director finally adjudged to be in violation of Section 23B.08.310 of the Washington Business Corporation Act (which section relates to unlawful distributions) or (c) any transaction with respect to which it was finally adjudged that such director personally received a benefit in money, property or services to which the director was not legally entitled.

Article 11 of the Registrant's articles of incorporation, provides that, to the fullest extent that the Washington Business Corporation Act permits the limitation or elimination of the liability of a director, a director shall not be liable to the Registrant or its stockholders for monetary damages for conduct as a director. Section 10 of the Registrant's amended and restated bylaws requires the Registrant to indemnify every present or former director or officer against expenses, liabilities and losses incurred in connection with serving as a director or officer, as applicable, and to advance expenses of such director or officer incurred in defending any proceeding covered by the indemnity.

The Registrant maintains a policy of directors and officers liability insurance that insures the directors and officers against the cost of defense, settlement or payment of a judgment under certain circumstances. The Registrant has also entered into indemnification agreements with its executive officers and directors that provide for the indemnification of directors and executive officers to the fullest extent permitted by the Washington Business Corporation Act against expenses reasonably incurred by such persons in any threatened, pending or completed action, suit, investigation or proceeding in connection with their service as (i) a director or officer or (ii) a director, officer, employee or agent of another corporation or of a partnership, joint venture, trust or other enterprise, including service with respect to employee benefit plans, at the Registrant's request. In addition, the indemnification agreements provide the Registrant with the obligation to advance expenses under certain circumstances and provide for procedural protections, including a determination by a reviewing

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party as to whether the indemnitee is permitted to be indemnified under applicable law. In addition, the Registrant acknowledges that it will be the indemnitor of first resort should the indemnitee have rights to indemnification provided by other persons.

The Registrant plans to enter into an underwriting agreement that provides that the underwriter is obligated, under certain circumstances, to indemnify the Registrant's directors, officers and controlling persons against specified liabilities, including liabilities under the Securities Act.

Item 15. Recent Sales of Unregistered Securities.

Set forth below is information regarding securities issued and options granted by us since January 1, 2014 that were not registered under the Securities Act. Also included is the consideration, if any, received by the Registrant, for such securities and options and information relating to the Securities Act, or rule of the SEC, under which exemption from registration was claimed.

From September 5, 2014 to April 21, 2016, the Registrant granted stock options under its 2013 Stock Incentive Plan to purchase an aggregate of 835,777 shares of common stock to its employees, directors and consultants, having exercise prices ranging from \$2.82 to \$14.00 per share, of which no shares have been exercised through the (1) date hereof. These issuances of securities were deemed to be exempt from registration under the Securities Act in reliance on Rule 701 in that the transactions were under compensatory benefit plans and contracts relating to compensation as provided under Rule 701. Appropriate legends were affixed to the securities issued in these transactions.

(2) On March 10, 2015, the Registrant entered into subscription agreements to issue an aggregate amount of 1,575,757 shares of its common stock and warrants to purchase up to an aggregate of 393,939 shares of its common stock at an exercise price of \$10.75 per share. The offers, sales and issuances were deemed to be exempt from registration under the Securities Act. The purchasers of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions. Each of such purchasers was an accredited investor under Rule 506 of Regulation D or not a U.S. person under Regulation S.

(3) In February 2016, pursuant to the terms of an Asset Purchase Agreement, dated January 4, 2016, the Registrant issued warrants to purchase up to an aggregate of 170,000 shares of its common stock at an exercise price of \$12.00 per share to former shareholders of Novolytics Limited. The offers, sales and issuances were deemed to be exempt from registration under the Securities Act. The purchasers of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions. Each of such purchasers was an accredited investor under Rule 506 of Regulation D or not a U.S. person under Regulation S.

(4) On April 8, 2016, pursuant to the terms of a Common Stock Issuance Agreement, the Registrant issued 853,465 shares of its common stock to certain former holders of its Series B redeemable convertible preferred stock. As consideration for the common stock issued and the amendments to certain warrants to purchase common stock, the recipients waived their right to receive approximately \$2.2 million in aggregate cash payments to which they were entitled upon the conversion of their shares of Series B redeemable convertible preferred stock in respect of accrued dividends on their former shares of Series B redeemable convertible preferred stock. The recipients also waived their registration rights with respect to certain future registration statements that may be filed, and certain future public offerings that may be conducted, by the Registrant. The issuance of shares of common stock under the Common Stock Issuance Agreement was deemed to be exempt from registration under the Securities Act. Each of the recipients of such shares acquired the securities for investment only and not with a view to or for sale in

connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions. Each recipient was also an accredited investor under Rule 506 of Regulation D or not a U.S. person under Regulation S.

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On June 21, 2016, the Registrant issued 750,206 shares of its common stock to certain former holders of its Series B convertible preferred stock, for no additional consideration pursuant to Section 3 of the Common Stock Issuance (5) Agreement, dated April 8, 2016, between the Registrant and such holders. The issuance of such shares of common stock was deemed to be exempt from registration under Section 4(a)(2) of the Securities Act or Rule 506 of Regulation D thereunder. Appropriate legends were affixed to the shares issued in this transaction.

Item 16. Exhibits and financial statement schedules.

(a) Exhibits.

See the Exhibit Index attached to this registration statement, which is incorporated by reference herein.

(b) Financial statement schedules.

No financial statement schedules are provided because the information called for is not required or is shown either in the financial statements or the notes thereto.

Item 17. Undertakings.

The undersigned Registrant hereby undertakes to provide to the underwriter at the closing specified in the Underwriting Agreement certificates in such denominations and registered in such names as required by the underwriter to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933; To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement;
 - (ii)
 - (iii)

To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective (2) amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned Registrant undertakes that in a primary offering of securities of the undersigned Registrant pursuant to this registration statement, regardless of the underwriting method used to sell
- (4) the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned Registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:
- (i) Any preliminary prospectus or prospectus of the undersigned Registrant relating to the offering required to be filed pursuant to Rule 424 (§230.424 of this chapter);
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned Registrant or used or referred to by the undersigned Registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned Registrant or its securities provided by or on behalf of the undersigned Registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned Registrant to the purchaser.
For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
- (5) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains
- (6) a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, California, on the 6th day of April, 2017.

AMPLIPHI BIOSCIENCES CORPORATION

By:

/s/ M. Scott Salka

M. Scott Salka
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints M. Scott Salka and Steve R. Martin, and each of them, as his or her true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him or her and in his or her name, place or stead, in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments), and to sign any registration statement for the same offering covered by this registration statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act, and all post-effective amendments thereto, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

| SIGNATURE | TITLE | DATE |
|-------------------------|--|---------------|
| /s/ Michael Scott Salka | Chief Executive Officer <i>(Principal Executive Officer)</i> | April 6, 2017 |
| Michael Scott Salka | | |
| /s/ Steve R. Martin | Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i> | April 6, 2017 |
| Steve R. Martin | | |
| /s/ Jeremy Curnock Cook | Chairman of the Board of Directors | April 6, 2017 |
| Jeremy Curnock Cook | | |
| /s/ Louis Drapeau | Director | April 6, 2017 |
| Louis Drapeau | Director | April 6, 2017 |

/s/ Paul C. Grint

Paul C. Grint, M.D.

/s/ Wendy S. Johnson

Director

April 6, 2017

Wendy S. Johnson

/s/ Michael S. Perry

Director

April 6, 2017

Michael S. Perry, Ph.D.

/s/ Vijay B. Samant

Director

April 6, 2017

Vijay B. Samant

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EXHIBIT INDEX

| Exhibit Number | Description of Document |
|----------------|---|
| 1.1 | Form of Underwriting Agreement. |
| 3.1 | Amended and Restated Articles of Incorporation of the Registrant, as amended (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q, filed with the SEC on November 16, 2015). |
| 3.2 | Amended and Restated Bylaws of the Registrant, as amended (incorporated by reference to Exhibit 3.2 to the Registrant's Quarterly Report on Form 10-Q, filed with the SEC on November 16, 2015). |
| 4.1 | Reference is made to Exhibits 3.1 and 3.2. |
| 4.2 | Form of Common Stock Certificate (incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form 10, as amended (File No. 000-23930), filed with the SEC on December 16, 2013). |
| 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 Registrant's Registration Statement on Form 10, as amended (File No. 000-23930), filed with the SEC on December 16, 2013). |
| 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 Registrant's Registration Statement on Form 10, as amended (File No. 000-23930), filed with the SEC on December 16, 2013). |
| 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 Registrant's Registration Statement on Form 10, as amended (File No. 000-23930), filed with the SEC on December 16, 2013). |
| 4.6 | Subscription Agreement to Purchase Common Stock and Warrants, dated December 16, 2013 (incorporated by reference to Exhibit 4.5 to the Registrant's Registration Statement on Form 10, as amended (File No. 000-23930), filed with the SEC on December 16, 2013). |
| 4.7 | Subscription Agreement to Purchase Common Stock and Warrants, dated March 10, 2015 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on 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 Registrant's Current Report on Form 8-K, filed with the SEC on 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 Registrant's Current Report on Form 8-K, filed with the SEC on 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 Registrant's Current Report on Form 8-K, filed with the SEC 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 Registrant's Annual Report on Form 10-K, filed with the SEC 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 Registrant's Annual Report on Form 10-K, filed with the SEC on March 30, 2016).

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| Exhibit Number | Description of Document |
|----------------|--|
| 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 Registrant's Annual Report on Form 10-K, filed with the SEC on March 30, 2016). |
| 4.14 | Common Stock Issuance Agreement, dated April 8, 2016, by and among the Registrant and the persons and entities listed on Exhibit A thereto (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on April 8, 2016). |
| 4.15 | 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 Registrant's Current Report on Form 8-K, filed with the SEC on June 1, 2016). |
| 4.16 | Form of Securities Purchase Agreement (incorporated by reference to Exhibit 99.3 to the Registrant's Current Report on Form 8-K, filed with the SEC on June 1, 2016). |
| 4.17 | 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 Registrant's Current Report on Form 8-K, filed with the SEC on November 17, 2016). |
| 4.18 | Form of Warrant. |
| 5.1 | Opinion of Cooley LLP. |
| 10.1+ | Targeted Genetics Corporation 2009 Stock Incentive Plan (incorporated by reference to Exhibit 10.12 to the Registrant's Registration Statement on Form 10 (File No. 000-23930), filed December 16, 2013, as amended). |
| 10.2+ | AmpliPhi Biosciences Corporation 2012 Stock Incentive Plan (incorporated by reference to Exhibit 10.13 to the Registrant's Registration Statement on Form 10 (File No. 000-23930), filed December 16, 2013, as amended). |
| 10.3+ | Form of Stock Option Agreement under AmpliPhi Biosciences Corporation 2012 Stock Incentive Plan (incorporated by reference to Exhibit 10.14 to the Registrant's Registration Statement on Form 10 (File No. 000-23930), filed December 16, 2013, as amended). |
| 10.4+ | AmpliPhi Biosciences Corporation 2013 Stock Incentive Plan (incorporated by reference to Exhibit 10.21 to the Registrant's Registration Statement on Form 10 (File No. 000-23930), filed December 16, 2013, as amended). |
| 10.5+ | Form of Grant Notice and Stock Option Agreement under AmpliPhi Biosciences Corporation 2013 Stock Incentive Plan (incorporated by reference to Exhibit 10.16 to the Registrant's Annual Report on Form 10-K, filed with the SEC on March 30, 2016). |
| 10.6+ | AmpliPhi Biosciences Corporation 2016 Equity Incentive Plan (incorporated by reference to Exhibit 99.1 to the Registrant's Registration Statement on Form S-8, filed with the SEC on June 22, 2016). |
| 10.7+ | Form of Stock Option Grant Notice, Option Agreement and Notice of Exercise under the AmpliPhi Biosciences Corporation 2016 Equity Incentive Plan (incorporated by reference to Exhibit 99.2 to the Registrant's Registration Statement on Form S-8, filed with the SEC on June 22, 2016). |
| 10.8+ | AmpliPhi Biosciences Corporation 2016 Employee Stock Purchase Plan (incorporated by reference to Exhibit 99.3 to the Registrant's Registration Statement on Form S-8, filed with the SEC on June 22, 2016). |
| 10.9+ | Form of Indemnity Agreement with the Registrant's Directors and Executive Officers (incorporated by reference to Exhibit 99.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on January 19, 2016). |

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10.10+ Offer Letter, dated as of April 28, 2015, by and between the Registrant and M. Scott Salka
(incorporated by reference to Exhibit 10.23 to the Registrant's Annual Report on Form 10-K,
filed with the SEC on March 30, 2016).

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| Exhibit Number | Description of Document |
|-------------------|--|
| 10.11+ | 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 with the SEC on April 4, 2017). |
| 10.12+ | Offer Letter, dated as of January 18, 2016, by and between the Registrant and Steve R. Martin (incorporated by reference to Exhibit 99.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on January 19, 2016). |
| 10.13+ | 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 Registrant's Current Report on Form 8-K, filed with the SEC on April 4, 2017). |
| 10.14+ | Offer Letter, dated as of January 27, 2017, by and between the Registrant and Igor P. Bilinsky, Ph.D. (incorporated by reference to Exhibit 99.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on February 2, 2017). |
| 10.15+ | 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 Registrant's Current Report on Form 8-K, filed with the SEC on April 4, 2017). |
| 10.16+ | Consulting Agreement, dated as of February 1, 2017, by and between the Registrant and Wendy S. Johnson (incorporated by reference to Exhibit 99.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on February 2, 2017). |
| 10.17 | Loan Repayment Deed, dated September 28, 2012, by and among the Registrant, Cellabs Pty Ltd and Special Phage Holdings Pty Ltd. (incorporated by reference to Exhibit 10.1 to the Registrant's Registration Statement on Form 10, as amended (File No. 000-23930), filed with the SEC on December 16, 2013). |
| 10.18 | Stock Issuance Agreement, dated as of March 29, 2013, by and between the Registrant and Intrexon Corporation (incorporated by reference to Exhibit 10.3 to the Registrant's Registration Statement on Form 10, as amended (File No. 000-23930), filed with the SEC on December 16, 2013). |
| 10.19* | License, dated as of September 5, 2013, by and between the Registrant and the University of Leicester (incorporated by reference to Exhibit 10.6 to the Registrant's Registration Statement on Form 10, as amended (File No. 000-23930), filed with the SEC on December 16, 2013). |
| 10.20 | Cooperative Research and Development Agreement, dated as of June 13, 2013, by and between the Registrant and United States Army Medical Research and Materiel Command (incorporated by reference to Exhibit 10.7 to the Registrant's Registration Statement on Form 10, as amended (File No. 000-23930), filed with the SEC on December 16, 2013). |
| 10.21 | Agreement of Lease, dated as of February 23, 2011, by and between the Registrant and Virginia Biotechnology Research Partnership Authority (incorporated by reference to Exhibit 10.9 to the Registrant's Registration Statement on Form 10, as amended (File No. 000-23930), filed with the SEC on December 16, 2013). |
| 10.22 | Lease, dated as of December 8, 2011, by and between Biocontrol Limited, Nevis Limited and Charter Limited (incorporated by reference to Exhibit 10.11 to the Registrant's Registration Statement on Form 10, as amended (File No. 000-23930), filed with the SEC on December 16, 2013). |
| 10.23* | License Agreement, dated as of July 3, 2007, by and between the Registrant and Health Protection Agency, Centre for Emergency Preparedness and Response (incorporated by reference to Exhibit 10.18 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-193458), filed with the SEC on January 21, 2014). |

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| Exhibit Number | Description of Document |
|----------------|---|
| 10.24 | Stockholder Sale Agreement, dated as of September 8, 2012, by and among the Registrant, Anthony Smithyman and Margaret Smithyman, AmpliPhi Australia Pty Ltd, Special Phage Holdings Pty Ltd, and the other parties listed therein (incorporated by reference to Exhibit 10.19 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-193458), filed with the SEC on January 21, 2014). |
| 10.25 | Agreement and Plan of Merger, dated as of November 12, 2010, by and among the Registrant, Sheffield Acquisition 1, Inc., and Sheffield Acquisition 2, Inc. (incorporated by reference to Exhibit 10.20 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-193458), filed with the SEC on January 21, 2014). |
| 10.26 | Agreement of Lease of Business Premises, dated as of February 21, 2014, by and between Avotehna d.d. and the Registrant, Biotehno lo ke Raziskave in Razvoj, d. o. o. (incorporated by reference to Exhibit 10.22 to the Registrant's Registration Statement on Form 10, as amended (File No. 000-23930), filed with the SEC on December 16, 2013). |
| 10.27 | Collaboration Agreement, dated as of November 9, 2014, by and between the Registrant and the University of Leicester (incorporated by reference to Exhibit 10.23 to the Registrant's Registration Statement on Form 10, as amended (File No. 000-23930), filed with the SEC on December 16, 2013). |
| 10.28 | Agreement of Sublease, dated as of April 17, 2015, by and between the Registrant and Virginia Biotechnology Research Partnership Authority (incorporated by reference to Exhibit 10.26 to the Registrant's Annual Report on Form 10-K, as amended, filed with the SEC on April 30, 2015). |
| 10.29* | Collaboration Agreement, dated as of November 4, 2015, by and between the Registrant and the University of Leicester (incorporated by reference to Exhibit 10.25 to the Registrant's Annual Report on Form 10-K, filed with the SEC on March 30, 2016). |
| 10.30 | Asset Purchase Agreement, dated as of January 4, 2016, by and between the Registrant and Novolytics Limited (incorporated by reference to Exhibit 10.26 to the Registrant's Annual Report on Form 10-K, filed with the SEC on March 30, 2016). |
| 10.31 | Placement Agency Agreement, dated as of May 31, 2016, by and among the Registrant, Roth Capital Partners, LLC and Griffin Securities, Inc. (incorporated by reference to Exhibit 99.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on June 1, 2016). |
| 10.32 | Settlement Agreement, dated as of November 12, 2016, by and between the Registrant and NRM VII Holdings I, LLC (incorporated by reference to Exhibit 99.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on November 14, 2016). |
| 21.1 | Subsidiaries of the Registrant (incorporated by reference to Exhibit 21.1 to the Registrant's Annual Report on Form 10-K, filed with the SEC on March 27, 2017). |
| 23.1 | Consent of Ernst & Young LLP, independent registered public accounting firm. |
| 23.2 | Consent of Cooley LLP. Reference is made to Exhibit 5.1. |
| 24.1 | Power of Attorney. Reference is made to the signature page. |

+ Indicates management contract or compensatory plan

* The Registrant has obtained confidential treatment with respect to certain portions of this exhibit
To be filed by amendment